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# **AIR FORCE OFFICE OF SCIENTIFIC RESEARCH**

## **RESEARCH PROPOSAL**

### **QUARTERLY STATUS REPORT**



**JULY - SEPTEMBER 1994**

19950417 137

## REPORT DOCUMENTATION PAGE

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# RESEARCH PROPOSAL

## QUARTERLY STATUS REPORT

### THIRD QUARTER 1994

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## INTRODUCTION

The Research Proposal Quarterly Status Report is published quarterly (March, June, September, and December) by the Air Force Office of Scientific Research (AFOSR). It lists all the research proposals received by AFOSR during the past six months along with the action taken (Initiated, Declined or Withdrawn on each report.

The report is divided into two parts. The Institution Index lists proposals alphabetically by institution. This is followed by a more detailed listing by Directorate, and by Program Manager within the Directorate.

## PURPOSE

This report is designed to inform other Government sponsoring agencies of the proposals received by the AFOSR and the action taken on these proposals. Readers must keep in mind that declined proposals should not necessarily be considered as scientifically unacceptable; many declinations result from a lack of funds or as a result of special programmatic emphasis.

## AFOSR MISSION

The Air Force Office of Scientific Research (AFOSR) is the single manager of the Air Force Defense Research Sciences Program (Program Element 61102F) and the primary Air Force agency for the extramural support of fundamental scientific research. To sponsor and sustain basic research and ensure access to research results in support of the Air Force goals of control and maximum utilization of air and space. The AFOSR is organized under the Director, Science and Technology, Air Force Materiel Command.

AFOSR awards grants and contracts for research in areas of science relevant to the needs of the Air Force. Research is selected for support from proposals received in response to the Broad Agency Announcement originating from scientists investigating problems involving the search for new knowledge and the expansion of scientific principles. Selection is on the basis of scientific potential for improving Air Force operational capabilities, originality, significance of science, the qualification of the principal investigators, and the reasonableness of the proposed budget.

KEY TO READING THE DATA

Title - The title of the research proposal.

Institution - The organization, (e.g., college/university, company) at which the research will be conducted.

Investigator - The Principal Investigators proposing the research.

Type - N indicates a new research effort.

- R indicates a continuation of an ongoing research effort.

Months - The duration of the research proposal.

Received - The month and year in which the AFOSR received the proposal.

Amount - The funds requested of the AFOSR for support of the research proposal.

Status - A = ACCEPTED indicates that the review has been completed and the proposal recommended for funding.

- D = DECLINED indicates the proposal has been reviewed but will not be funded by the AFOSR.

- BLANK SPACE = indicates the proposal is being reviewed.

- W = WITHDRAWN indicates that the proposal submitted was removed from further consideration at the proposer's request.

Program Manager - The AFOSR scientific staff member assigned the responsibility for the technical evaluation of the proposal.

Proposal # - An AFOSR Directorate assigned control number to uniquely identify the research proposal.

Initiate - The proposal has been recommended to the AFOSR Directorate of Contracts for the amount and duration.

Start Date - The recommended date for commencement of the research.

Total Amount - The estimated number of dollars recommended for support of the research effort; the actual amount is subject to negotiation.

## **PART 1**

REPORT DATE 02/15/95

PROPOSAL STATUS REPORT ( 1 JUN 94 - 30 SEP 94)  
AIR FORCE OFFICE OF SCIENTIFIC RESEARCH  
DIRECTORATE OF AEROSPACE SCIENCES

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TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
FREQUENCY DEPENDENT ELECTROKINETIC STUDIES OF ROCKS AND SOILS Massachusetts Institute of Technology	Morgan	N 36 01/06/94 \$264,860	A LEWIS 94-NA-188	\$178,930 01/03/95 \$264,860
HIGH RESOLUTION PHYSICAL PROPERTY IMAGING OF THE SUBSURFACE USING GROUND-PENETRATING RADAR Massachusetts Institute of Technology	Toksoz	N 36 01/06/94 \$361,640	D LEWIS 94-NA-189	
(STTR94-01) REDUCTION OF THERMAL STRESS INDUCED DEFECTS FOR INDIUM PHOSPHIDES BULK CRYSTAL GROWTH Greene Inc. Research & Development Inc	Jasinski	N 06 08/06/94 \$99,526	D POMRENKE 94-NA-190	
FY94 AFOSR SUPPORT FOR THE JANNAF INTERAGENCY PROPULSION COMMITTEE Office of Naval Research	Davis	N 12 10/06/94 \$20,000	A TISHKOFF 94-NA-192	
(OEPCOR94) CREEP DAMAGE AND LIFE PREDICTION FOR HIGH TEMPERATURE MATERIALS Univ of South Carolina	Sutton	N 36 13/06/94 \$375,000	A JONES 94-NA-193	\$375,000 15/09/94 \$375,000
SUPPORT OF 1995 ASME-AND SUMMER MEETING Univ of California, Los Angeles	Mal	N 12 22/06/94 \$10,000	WU 94-NA-194	
FUNDAMENTAL RESEARCH ON THE MECHANICS OF FLUID FLOW THROUGH POROUS MEDIA Purdue University	Fox	N 36 22/06/94 \$172,164	D LEWIS 94-NA-195	
CONTOURED HOLES OF FILM-COOLING: THE EFFECT OF KIDNEY-SHAPED VORTICES Univ of Washington	Kurosaka	N 19 22/06/94 \$109,467	A MCMICHAEL 94-NA-196	\$100,477 01/04/95 \$108,944
THE OPTIMAL DESIGN OF STRUCTURES INCORPORATING "SMART MATERIALS" Univ of Michigan	Washabaugh	N 30 22/06/94 \$428,000	A WU 94-NA-197	\$138,000 20/09/94 \$428,000



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TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
A BASIC RESEARCH PROGRAM FOR THE CHARACTERIZATION OF THE MECHANICAL BEHAVIOR OF TEXTILE-TYPE COMPOSITES Univ of Cincinnati	Nayfeh	N 36 22/06/94 \$257,740	A JONES 94-NA-198	\$66,404 01/04/95 \$209,365
BURNETT EQUATIONS SIMULATION OF HYPERSONIC FLOW IN AN INLET				
McDonnell Douglas Aerospace	Agarwal	N 24 23/06/94 \$150,000	D SAKELL 94-NA-199	
SMART MATERIALS FOR ROTOR BLADE STRUCTURES				
Boeing Co	Jacot	N 30 29/06/94 \$2,245,000	A WU 94-NA-200	\$609,000 30/09/94 \$2,245,000
COURIP94) PULSED - LASER SYSTEM FOR PARTICLE IMAGE VELOCIMETRY				
Univ of Delaware	Prasad	N 12 30/06/94 \$65,350	MCMICHAEL 94-NA-202	
THERMOMECHANICAL BEHAVIOR OF FUNCTIONALLY GRADIENT MATERIALS				
Univ of Washington	Taya	N 36 30/06/94 \$292,659	JONES 94-NA-203	
AN INVESTIGATION OF THE BIAxIAL STRENGTH PROPERTIES OF HIGH TEMPERATURE POLYMERIC MATRIX/CARBON FIBER COMPOSITES				
Univ of Utah	Swanson	N 36 30/06/94 \$207,945	JONES 94-NA-204	
COURIP94) DIAGNOSTIC INSTRUMENTATION FOR SURVEYING PLANAR & FULL- FIELD PRESSURES IN AERODYNAMIC FLOWS				
Univ of Missouri	Finelish	N 12 30/06/94 \$130,000	MCMICHAEL 94-NA-205	
(COURIP94) OPTICAL DIAGNOSTICS FOR HYPERSONIC AERODYNAMICS				
Univ of Texas	Lu	N 12 01/07/94 \$202,701	MCMICHAEL 94-NA-206	
(COURIP94) LASER FLOW DIAGNOSTIC FACILITY				
Hampton University	Heang	N 12 01/07/94 \$550,000	MCMICHAEL 94-NA-207	

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TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
(COURIP 94) EQUIPMENT FOR THE NEURAL NETWORK DETERMINATION OF OPTICAL PHASE CORRECTION USING PARALLEL OPTOELECTRONIC IMAGE Georgia Tech Research Corporation	Jokerst	N 12 01/07/94 \$200,000	A MCMICHAEL 94-NA-208	\$200,000 01/03/95 \$200,000
(COURIP94) RESEARCH INSTRUMENTATION FOR MOLECULAR TAGGING DIAGNOSTICS Michigan State University	Koochesfahani	N 12 05/07/94 \$80,010	MCMICHAEL 94-NA-209	
DEVELOPMENT OF A NEW TECHNIQUE TO MONITOR PHYSICAL AGING OF AIRCRAFT CANOPY MATERIALS Univ of Illinois - Chicago	Chudnovsky	N 12 06/07/94 \$89,998	A WU 94-NA-210	\$44,998 15/11/94 \$44,998
LUMINESCENT PAINTS FOR PRESSURE MEASUREMENTS ON ROTATING MACHINES Purdue University	Sullivan	N 24 07/07/94 \$90,000	A FANT 94-NA-211	\$50,000 01/09/94 \$90,000
(COURIP94) PICOSECOND LASER SYSTEM FOR RAPID FLUORESCENCE IN DIAGNOSTICS TRANSIENT COMBUSTION PROCESSES Purdue University	King	N 12 07/07/94 \$189,000	MCMICHAEL 94-NA-212	
(COURIP94) MEASUREMENTS OF HIGH REYNOLDS NUMBER SMALL-SCALE TURBULENCE Princeton University	Smits	N 12 07/07/94 \$127,558	MCMICHAEL 94-NA-213	
(COURIP 94) LABORATORY FOR DEVELOPMENT, CALIBRATION AND UTILIZATION OF WENS DEVICES Case Western Reserve University	Reshotko	N 12 08/07/94 \$179,120	A MCMICHAEL 94-NA-214	\$179,120 01/03/95 \$179,120
FUELS COMBUSTION RESEARCH Princeton University	Glassman	N 36 11/07/94 \$468,550	A TISHKOFF 94-NA-215	\$150,000 15/10/94 \$468,550
(COURIP94) A HIGH SPEED IMAGING SYSTEM FOR THE CAPTURE OF VOLUMETRIC & TIME-EVOLVING FLOW PARAMETERS Princeton University	Miles	N 24 12/07/94 \$486,279	MCMICHAEL 94-NA-216	

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TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
(COURIP94) DIAGNOSTIC EQUIPMENT FOR TURBULENT AND COMPRESSIBLE FLOWS Rensselaer Polytechnic Institute	Thompson Brian	N 24 12/07/94 \$109,951	MCMICHAEL 94-NA-217	
(COURIP94) A 3-D LASER DOPPLER ANEMOMETER (LDA) AND DIGITAL PARTICLE IMAGE VELOCIMETER Florida International University	Ebadian M A	N 24 12/07/94 \$271,452	MCMICHAEL 94-NA-218	
(COURIP94) PARTICLE DYNAMICS ANALYZER FOR MEASUREMENT OF 2-D VELOCITY DISTRIBUTION Louisiana State University	Rice Richard	N 24 12/07/94 \$179,690	MCMICHAEL 94-NA-219	
(COURIP94) LARGE DATA CAPACITY PIV DIAGNOSTIC FACILITY FOR TURBULENCE RESEARCH Univ of Illinois	Adrian Ronald	N 12 12/07/94 \$153,598	A MCMICHAEL 94-NA-220	\$153,598 01/03/95 \$153,598
(COURIP94) TRANSIENT PARTICLE IMAGING VELOCIMETRY IN COMPLEX TURBULENT FLOWS Purdue University	Plesniak Michael	N 24 12/07/94 \$100,000	MCMICHAEL 94-NA-221	
(COURIP94) TURBULENT-FLOWFIELD, VOLUMETRIC SCALAR MEASUREMENT SYSTEM Univ of Notre Dame	Jumper Eric	N 12 12/07/94 \$99,539	MCMICHAEL 94-NA-222	
(COURIP94) DIAGNOSTIC EQUIPMENT FOR TURBULENT & COMPRESSIBLE FLOWS: HIGH VELOCITY RESOLUTION DOPPLER GLOBAL VELOCIMETER Virginia Polytechnic Inst & State Univ	Simpson Roger	N 12 12/07/94 \$97,596	MCMICHAEL 94-NA-223	
(COURIP94) INTEGRATED EXPERIMENTAL SYSTEM FOR TURBULENT FLOW - ELASTIC SURFACE Lehigh University	Rockwell Donald	N 24 12/07/94 \$101,378	A SAKELL 94-NA-224	\$101,378 01/01/95 \$101,378
(COURIP94) INSTRUMENTATION FOR REAL-TIME OPTICAL DIAGNOSTICS IN COMPRESSIBLE Ohio State University	Samimy Mo	N 12 12/07/94 \$228,000	A SAKELL 94-NA-225	\$228,000 01/01/95 \$228,000

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TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
(COURIP94) MECHANISMS IN HIGH-SPEED COMPRESSIBLE BOUNDARY LAYERS Purdue University	Collicott Steven	N 12 12/07/94 \$130,500	MCMICHAEL 94-NA-226	
(COURIP94) OPTICAL IMAGING OF FUEL SPRAY DROPLETS USING PICOSECOND KERR-FOURIER GATE & HIGH SPEED CCD CAMERA SYSTEM City College - CUNY	Ho Ping-Pei	N 12 12/07/94 \$175,000	MCMICHAEL 94-NA-227	
(COURIP94) A PIV SYSTEM FOR TIME-RESOLVED MEASUREMENTS AT HIGH REYNOLDS NUMBERS IN THE NATIONAL DIAGNOSTIC FACILITY Illinois Institute of Technology	Wark Candace	N 12 12/07/94 \$135,079	A MCMICHAEL 94-NA-228	\$135,079 01/03/95 \$135,079
(COURIP94) HIGH SPEED/RESOLUTION/DYNAMIC-RANGE IMAGING SYSTEM FOR SUBSONIC AND SUPERSONIC TURBULENT FLOWS California Institute of Technology	Jimotakis Paul	N 24 12/07/94 \$594,790	A MCMICHAEL 94-NA-229	\$594,790 01/03/95 \$594,790
(COURIP94) INNOVATIONS IN HOLOCINEMATOGRAPHIC VELOCIMETRY FOR COMPRESSIBLE AERODYNAMICS Univ of Houston	Hussain Fazle	N 12 12/07/94 \$232,216	MCMICHAEL 94-NA-230	
(COURIP94) DEFENSE UNIVERSITY RESEARCH INSTRUMENTATION PROGRAM Auburn University	Clothiaux Eugene	N 12 12/07/94 \$157,130	MCMICHAEL 94-NA-231	
CONTROL OF COUPLED TRANSIENT MANEUVERS VIA FLAP & VECTOR THRUSTING ACTION Virginia Polytechnic Inst & State Univ	Tellonis Demetri	N 36 13/07/94 \$367,520	MCMICHAEL 94-NA-232	
ORGANIC POLLUTANTS IN SOILS, AS STUDIED BY NUCLEAR MAGNETIC RESONANCE Colorado State University	Maciel Gary	N 36 13/07/94 \$567,900	A LEWIS 94-NA-233	\$255,200 01/03/95 \$567,900
DYNAMICAL MODELLING OF INNER & OUTER LAYERS OF WALL BOUNDED TURBULENT FLOWS Univ of Illinois - Urbana Champaign	Adrian Ronald	N 36 15/07/94 \$255,451	MCMICHAEL 94-NA-234	

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TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
EXPERIMENTAL & COMPUTATIONAL STUDIES OF HEAT TRANSFER AND FLOW PHENOMENA IN AIRCRAFT GAS TURBINE ENGINES Univ of Minnesota	Goldstein Richard	N 36 15/07/94 \$690,918	FANT 94-NA-235	
PROVIDE GRAPHICS SUPPORT FOR PROFESSOR PARVIZ MOIN, STANFORD UNIVERSITY, AFOSR 92-J-0128 NASA - Ames Research Center	Rogallo Bob	N 12 20/07/94 \$25,000	A SAKELL 94-NA-236	\$25,000 01/10/94 \$25,000
RIPPLE LAUNCH COMPUTATIONAL CAPABILITY Arnold Engineering Development Center	Tennent Scott	N 12 21/07/94 \$129,813	A SAKELL 94-NA-237	\$129,813 01/10/94 \$129,813
LUMINESCENT PAINTS FOR PRESSURE MEASUREMENTS ON ROTATING MACHINES Purdue Research Foundation	Sullivan John	N 24 21/07/94 \$90,000	A SAKELL 94-NA-238	\$50,000 01/10/94 \$90,000
A STUDY ON TWIN TOUGHENING MECHANISM IN SINGLE CRYSTAL L1 GAMMA TITANIUM ALUMINIDES Polytechnic University	Whang Sung	N 36 27/07/94 \$479,299	WARD 94-NA-239	
ADVANCED DIAGNOSTICS FOR REACTING FLOWS Stanford University	Hanson Ronald	N 36 28/07/94 \$936,500	A TISHKOFF 94-NA-240	\$300,000 01/11/94 \$936,500
LARGE-EDDY SIMULATION OF TRANSITIONAL AND TURBULENT FLOW OVER A TRANSONIC AIRFOIL McDonnell Douglas Aerospace	Kral Linda	N 36 29/07/94 \$229,275	D SAKELL 94-NA-241	\$69,993 15/10/94 \$229,975
TEXTURE DEVELOPMENT AND EVOLVING ANISOTROPY AT LARGE INELASTIC DEFORMATIONS Univ of California, Davis	Dafalias Yannis	N 36 01/08/94 \$245,152	WU 94-NA-242	
CHARACTERIZING SCALE DEPENDENT HYDRAULIC PROPERTIES WITH MEASUREMENT OF DIELECTRIC PROPERTIES Univ of British Columbia	Knight Rosemary	N 36 01/08/94 \$283,230	A LEWIS 94-NA-243	\$166,870 01/02/95 \$283,230

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TITLE  
TITLE (CONT.)  
INSTITUTION

TYPE/MONTHS  
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TOT AMT

THE ROLE OF INSTABILITIES ON THE MECHANICAL RESPONSE OF CELLULAR  
SOLIDS AND STRUCTURES  
Univ of Texas at Austin

Stelios

Kyrilakides

N 24  
05/08/94  
\$81,730

A  
WU 94-NA-244

\$40,865  
01/02/95  
\$81,730

MODELING OF THERMODYNAMICALLY DRIVEN AGING PHENOMENA IN  
FUNCTIONALLY GRADIENT MATERIALS PROPOSAL NUMBER: 94-9676-186  
David Sarnoff Research Center

Joseph

WARD  
94-NA-245

N 36  
09/08/94  
\$450,000

LONG-TERM DURABILITY OF AIRCRAFT ALLOYS

SRI International

Donald

Shockey

WARD  
94-NA-246

N 36  
09/08/94  
\$449,893

PHYSICAL AND ANALYTICAL MODELING OF THE CONSOLIDATION OF TI-6AL-4V  
POWDER-BASED MATRIX/STC FIBER COMPOSITES  
Carnegie-Mellon University

Henry

Pleher

WARD  
94-NA-247

N 36  
09/08/94  
\$485,338

INVESTIGATION OF THE FRACTURE CHARACTERISTICS OF LAMELLAR  
NANOCOMPOSITES AND IN SITU-FORMED COMPOSITES  
Southeast Research Institute

David

Davidson

A  
WARD 94-NA-248

\$109,468  
01/03/95  
\$599,996

THERMOMECHANICAL BEHAVIOR OF FUNCTIONALLY GRADED MATERIALS

Texas Engineering Experiment Station

Reddy

J

A  
JONES 94-NA-249

N 36  
11/08/94  
\$372,702

RAPID CONCENTRATION MEASUREMENTS BY PICOSECOND TIME-RESOLVED  
LASER-INDUCED FLUORESCENCE  
Purdue Research Foundation

Galen

King

A  
TISHKOFF 94-NA-250

\$131,263  
01/03/95  
\$403,453

HIGH-TEMPERATURE MICROMECHANICS AND MECHANISMS OF DAMAGE AND  
FAILURE IN ADVANCED CERAMIC-MATRIX COMPOSITES  
Univ of Houston

Su Su

Wang

A  
JONES 94-NA-251

\$89,904  
15/03/95  
\$278,785

SYNTHESIS OF HIGH-TEMPERATURE/MONOLITHIC CERAMIC BODIES & CERAMIC-  
MATRIX COMPOSITES BY THE OXIDATION OF SOLID METALBEARING PRECURSOR  
Ohio State University

Ken

Sandhage

A  
PECHEMIK 94-NA-253

\$75,000  
01/04/95  
\$480,032

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TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
INSTABILITIES AND LAMINAR-TURBULENT TRANSITION IN COMPRESSIBLE STREAMWISE VORTICES High Technology Corp	Mehdi	N 24 15/08/94 \$181,217	A SAKELL 94-NA-254	\$89,112 01/11/94 \$181,217
FLUID, STRUCTURE AND CONTROL INTERACTION Virginia Polytechnic Inst & State Univ	Daniel	N 24 15/08/94 \$130,000	A WU 94-NA-255	\$130,000 01/05/95 \$130,000
STUDIES ON HIGH-PRESSURE AND UNSTEADY FLAME PHENOMENA Princeton University	Chung	N 36 16/08/94 \$360,000	A YISHKOFF 94-NA-256	\$115,000 15/04/95 \$360,000
A PROPOSAL FOR RESEARCH ON ALUMINUM COMBUSTION AND OXIDE DROPLET FORMATION IN SOLID ROCKET MOTORS Georgia Tech Research Corporation	Edward	N 24 16/08/94 \$151,999	M BIRKAN 94-NA-257	
COMPUTATIONAL ANALYSIS AND GROUND TESTING OF LARGE FLEXIBLE AEROSPACE STRUCTURES Howard University	Peter	N 36 17/08/94 \$443,576	WU 94-NA-258	
LARGE EDDY SIMULATION OF SUPERSONIC INLET FLOWS Stanford University	Parviz	N 36 19/08/94 \$370,040	A SAKELL 94-NA-259	\$71,741 01/01/95 \$303,037
PROMOTING ATOMIC SCALE ENGINEERING BY QUANTIFYING EXPERIMENTAL OBSERVATIONS OF DISLOCATION CORES Johns Hopkins University	Kevin	N 24 24/08/94 \$268,900	A WARD 94-NA-260	\$130,000 01/04/95 \$372,000
POLYCOMPONENT FUNCTIONALLY GRADED MATERIALS FOR THERMAL BARRIER SYSTEMS General Electric Co	Melvin	N 36 24/08/94 \$603,221	A WARD 94-NA-261	\$114,028 15/03/95 \$603,221
MECHANICS OF FUNCTIONALLY GRADED MATERIALS Rensselaer Polytechnic Institute	George	N 36 24/08/94 \$369,000	JONES 94-NA-262	

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EXPERIMENTAL AND NUMERICAL INVESTIGATIONS ON FAILURE MECHANISMS IN FIBER-REINFORCED CERAMICS Univ of New Mexico	Wang	N 36 24/08/94 \$212,398	A JONES 94-NA-263	\$79,325 01/04/95 \$212,398
CRACK MECHANICS OF FUNCTIONALLY GRADED COATING/SUBSTRATE SYSTEMS Johns Hopkins University	Bao	N 36 24/08/94 \$192,237	A JONES 94-NA-264	\$59,789 01/02/95 \$189,890
NONLINEAR AEROELASTIC EFFECTS IN DAMAGED COMPOSITE AEROSPACE STRUCTURES Georgia Tech Research Corporation	Loewy	N 24 31/08/94 \$100,000	A WU 94-NA-265	\$100,000 01/04/95 \$100,000
SILICON-BASED NANOSTRUCTURAL CERAMICS DERIVED FROM POLYMER PRECURS ORS: DEVELOPMENT OF PROCESSING, STRUCTURE & PROPERTY RELATIONSHIPS United Technologies Research Center	Scheldt	N 36 06/09/94 \$499,990	A PECHENIK 94-NA-266	\$143,559 15/02/95 \$499,990
SYNTHESIS AND CHARACTERIZATION OF OXIDE SUPERLATTICE COATINGS Northwestern University	Sproul	N 36 06/09/94 \$450,000	A PECHENIK 94-NA-267	\$198,901 01/03/95 \$450,000
SPATIAL DIRECT NUMERICAL SIMULATION OF TRANSITION IN HYPERSONIC FLOWS College of William and Mary	Pruett	N 36 07/09/94 \$144,745	A SAKELL 94-NA-268	\$25,000 01/02/95 \$144,745
OPTICAL PHASE CORRECTION IN A PLANE SHEAR LAYER USING PARALLEL OPTOELECTRONIC IMAGE PROCESSING, GLOBAL OPTICAL FLOW DIAGNOSTICS Georgia Tech Research Corporation	Glezer	N 36 07/09/94 \$815,931	A MCMICHAEL 94-NA-269	\$271,929 01/04/95 \$815,931
(FRI94) ULTRA-LOW NOX/HIGH TEMPERATURE RISE COMBUSTION United Technologies Research Center	Sturgess	N 54 07/09/94 \$9,861,199	TISHKOFF 94-NA-270	
MICROMECHANICS AND CONSTITUTIVE MODELING OF GRANULAR MATERIALS IN STRESS REVERSAL AND CYCLIC LOADING Univ of California, San Diego	Nemat-Nasser	R 08 09/09/94 \$49,121	A LEWIS 94-NA-271	\$48,998 01/02/95 \$49,121

Siavouche



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PROVIDE CLOSEOUT FUNDING FOR JON AFSR302 Univ of Alabama	Chung	N 03 12/09/94 \$3,188	A SAKELL 94-NA-272	\$3,188 01/10/94 \$3,188
(CFR194) COMBUSTION CONTROL FOR LOW EMISSIONS Aerodyne Research Inc	Stickler	N 60 13/09/94 \$8,774,517	TISHKOFF 94-NA-273	
(CFR194) LOW EMISSIONS, HIGH PERFORMANCE GAS TURBINE ENGINES GE Aircraft Engines	David H Mongia	N 60 13/09/94 \$7,724,027	TISHKOFF 94-NA-274	
(CFR194) LOW EMISSIONS, HIGH PERFORMANCE GAS TURBINE COMBUSTOR RESEARCH AND DEMONSTRATION Allison Engine Co	Mohan Razdan	N 60 13/09/94 \$7,085,506	TISHKOFF 94-NA-275	
EXPERIMENTAL AND THEORETICAL STUDIES OF SPATIO-TEMPORAL INSTABILITIES IN NOVEL MATERIALS Michigan Technological University	Elias	R 36 13/09/94 \$313,435	A JONES 94-NA-276	\$88,287 15/02/95 \$276,288
DURABILITY AND DAMAGE TOLERANCE OF ADVANCED HIGH TEMPERATURE METAL MATRIX COMPOSITES Univ of Rhode Island	Hamouda	N 36 13/09/94 \$321,506	A JONES 94-NA-277	\$95,314 15/09/95 \$312,241
PREDICTION OF FATIGUE DAMAGE IN TITANIUM MATRIX COMPOSITES Georgia Tech Research Corporation	W. Steven Johnson	N 36 13/09/94 \$294,726	JONES 94-NA-278	
ANALYSIS AND DEMONSTRATION OF FUNCTIONALLY GRADED MATERIAL CONCEPTS FOR TITANIUM COMPOSITES MSNNC Inc.	Brian Sullivan	N 36 13/09/94 \$536,047	JONES 94-NA-279	
LARGE EDDY SIMULATION OF A COAXIAL JET COMBUSTOR: ANALYSIS OF THE LEAN BLOW-OUT PHENOMENON Stanford University	Parviz Moin	N 36 14/09/94 \$316,475	A MCMICHAEL 94-NA-280	\$98,045 01/03/95 \$316,475

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HIGH RESOLUTION MEASUREMENTS OF SUPERSONIC MIXING AND COMBUSTION  
IN COFLOWING TURBULENT JETS  
Univ of Michigan

Dahn

Werner J. A.

N 36  
15/09/94  
\$256,807

A  
TISHKOFF  
94-NA-281

\$82,205  
01/01/95  
\$256,807

CERAMIC MATRIX COMPOSITES-ADVANCED HIGH-TEMPERATURE STRUCTURAL  
MATERIALS  
Materials Research Society

Ballance

John

N 12  
20/09/94  
\$5,000

A  
PECHENIK  
94-NA-282

\$5,000  
01/01/95  
\$5,000

(FRI94) ADVANCED IGNITION/FLAME STABILIZATION TECHNOLOGIES  
Univ of Tennessee / Space Institute

Lewis

James W. L.

N 60  
20/09/94  
\$6,095,398

TISHKOFF  
94-NA-283

ANIONIC CONDUCTING OXIDE CERAMICS  
Univ of California, Los Angeles

Dunn

Bruce

R 36  
21/09/94  
\$180,000

A  
PECHENIK  
94-NA-284

\$60,000  
15/04/95  
\$180,000

GLOBAL BEHAVIOR OF NONLINEAR AEROELASTIC FLAT PANELS IN SUPERSONIC  
FLOW  
Univ of Illinois

Nasachchivaya

N Sri

N 24  
26/09/94  
\$125,311

WU  
94-NA-285

WHOLE-FIELD MEASUREMENTS OF TURBULENT FLOW FOR THE STUDY OF AERO-  
OPTICAL EFFECTS  
California Institute of Technology

Dimotakis

Paul

N 36  
26/09/94  
\$647,044

A  
MCHICHAEL  
94-NA-286

\$171,445  
15/02/95  
\$647,044

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DEFENSE BASIC RESEARCH: A PROSPECTUS BROCHURE Army Research Office	Ortiz	N 02 05/08/94 \$20,000	A YORK 94-NC-243	\$4,000 05/08/94 \$4,000
DEFENSE BASIC RESEARCH: A PROSPECTUS BROCHURE Army Research Office	Gabriel	N 02 15/08/94 \$20,000	A YORK 94-NC-244	\$20,000 15/08/94 \$20,000

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CONFERENCE-INDUCED ONE-PHOTON CASCADE LASING AND NON-OFGENERATE TWO-PHOTON AMPLIFICATION IN A HE-NE ATOMIC SYSTEM Florida International University	Zhu	N 36 02/06/94 \$213,777	D SCHLOSSBER 94-NE-242	
PHASE CONJUGATE INJECTION LOCKING OF LASER DIODE ARRAYS Univ of Southern California	Feinberg	R 36 02/06/94 \$36,375	A SCHLOSSBER 94-NE-243	\$150,000 01/12/94 \$475,000
CRYSTAL GROWTH EFFECTS ON THE COLOR CENTERS IN PHOTOREFRACTIVE SILLENITES Clarkson University	Roy	N 24 06/06/94 \$93,406	D SCHLOSSBER 94-NE-244	
GROWTH AND CHARACTERIZATION OF Cd 1-X Znx TE ON SILICON SUBSTRATE Univ of Illinois - Chicago	Sivananthan	N 60 06/06/94 \$0	A POMRENKE 94-NE-245	\$179,728 15/09/94 \$697,563
1994 MANUFACTURING SCIENCE AND TECHNOLOGY TOPICAL CONFERENCE American Vacuum Society	Whetten	N 06 07/06/94 \$25,775	A WITT 94-NE-246	\$12,506 15/09/94 \$12,505
(SITR94-01) REDUCTION OF THERMAL STRESS INDUCED DEFECTS FOR INDIUM PHOSPHIDS BULK CRYSTAL GROWTH Grease Inc. Research & Development Inc	Jasinski	N 06 08/06/94 \$99,526	A POMRENKE 94-NE-247	\$99,526 01/10/94 \$99,526
NEW MATERIALS AT THE METAL-INSULATOR BOUNDARY Oregon State University	Sleight	N 36 08/06/94 \$255,000	A WEINSTOCK 94-NE-248	\$85,000 01/11/94 \$255,000
STRUCTURE AND DYNAMICS OF EXCITED ATOMS Univ of Virginia	Gallagher	R 12 08/06/94 \$142,605	A KELLEY 94-NE-249	\$142,453 15/11/94 \$142,605
FEMTOSECOND PHOTONICS: FUNDAMENTAL PHENOMENA AND DEVICE BEHAVIOR Massachusetts Institute of Technology	Ippen	N 36 08/06/94 \$1,204,000	A SCHLOSSBER 94-NE-250	\$600,000 01/03/95 \$900,000

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(STTR94-01) MODELING, SIMULATION AND DESIGN OF HIGH PRESSURE CRYSTAL GROWTH SYSTEMS Ferrofluidics Corporation	Gupta Kedar	N 12 08/06/94 \$100,000	A POMRENKE 94-NE-251	\$100,000 01/10/94 \$100,000
CASCADABLE MULTIWAVELENGTH LOGIC USING A NOVEL DUAL-RAIL CODING TECHNIQUE AND HIGHLY NONDEGENERATE FOUR WAVE MIXING(CFMM) IN GAASP Georgia Tech Research Corporation	Blumenthal Daniel	N 12 13/06/94 \$46,538	A CRAIG 94-NE-252	\$45,668 15/11/94 \$46,129
III-V MODULATION AND SWITCHING DEVICES Univ of Michigan	Singh Jasprit	R 12 15/06/94 \$80,000	CRAIG 94-NE-253	
ULTRAVIOLET AND VISIBLE LASERS: RARE EARTH-DOPED WAVEGUIDE DEVICES AND NON-LINEAR OPTICAL EXTRACTION TECHNIQUES Univ of Illinois - Urbana Champaign	Eden J.	R 36 15/06/94 \$570,000	A SCHLOSSBER 94-NE-254	\$280,000 15/03/95 \$280,000
HIGH-FREQUENCY PROPERTIES OF TWO-DIMENSIONAL JOSEPHSON-JUNCTION ARRAYS Univ of Maryland	Lobb C. J.	N 36 20/06/94 \$250,000	A WEINSTOCK 94-NE-255	\$87,727 01/11/94 \$264,000
(CURIP-94) ACQUISITION OF A SOPRA DMOP 2000 MONOCHROMATOR FOR HIGH -RESOLUTION REAMAN SPECTROSCOPY Arizona State University	Menendez Jose	N 12 24/06/94 \$163,101	D SCHLOSSBER 94-NE-256	
(CURIP-94) TUNABLE FAR-IR SPECTROSCOPIC SOURCE FOR ABSORUATE DETER MINATION ON DROPLET SURFACES Yale University	Chang Richard	N 12 24/06/94 \$80,000	D SCHLOSSBER 94-NE-257	
(CURIP-94) TUNABLE INFRARED COLOR CENTER LASER SYSTEM FOR COMBUSTION DIAGNOSTICS Cornell University	Wolga Geore	N 12 24/06/94 \$70,555	D SCHLOSSBER 94-NE-258	
(CURIP-94) A 2048-CCD ANALYSIS SYSTEM TO LOCATE DTN SPACE TARGETS Univ of Arizona	Gehrels Tom	N 12 24/06/94 \$258,359	D SCHLOSSBER 94-NE-259	

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(COURIP-94) CHEMICAL VAPOR DEPOSITION SYSTEM FOR SPECTROSCOPIC SOURCES AND DETECTORS BASED ON GAN AND ITS ALLOYS Univ of Illinois	Morkoc Hadis	N 12 24/06/94 \$400,000	D SCHLOSSBER 94-NE-260	
(COURIP-94) FOCAL PLANE TEST ELECTRONICS FOR EVALUATION OF CCD, CID AND APS ARRAYS Rochester Institute of Technology	Ninkov Zoran	N 12 24/06/94 \$85,060	D SCHLOSSBER 94-NE-261	
(COURIP-94) INSTRUMENT FOR RECORDING OPTICALLY INDUCED DYNAMIC FERRO-ELECTRONIC DOMAIN GRATINGS/GENERATING QUASI-PHASE MATCHED TUNABLE California Institute of Technology	Variv Amnon	N 12 24/06/94 \$113,200	A SCHLOSSBER 94-NE-262	\$113,200 01/12/94 \$113,200
(COURIP-94) NONLINEAR OPTICAL SPECTROMETER Univ of Central Florida	VanStryland Eric	N 12 24/06/94 \$81,235	A SCHLOSSBER 94-NE-263	\$81,235 01/12/94 \$81,235
(COURIP-94) CHARACTERIZATION EQUIPMENT TO ENHANCE DEVELOPMENT OF GROUP-III NITRIDE Univ of New Mexico	Hersee Stephen	N 24 24/06/94 \$265,380	A SCHLOSSBER 94-NE-264	\$265,380 01/12/94 \$265,380
(COURIP-94) ELECTRIC FIELD ENHANCED DIRECT TRANSITIONS IN INDIRECT SEMI City College - CUNY	Shum Kai	N 12 24/06/94 \$75,000	D SCHLOSSBER 94-NE-265	
(COURIP-94) LASER MASS SPECTROMETER Texas A and M University	Schuessler Hans	N 12 24/06/94 \$133,500	D SCHLOSSBER 94-NE-266	
(COURIP-94) EQUIPMENT FOR GROWTH AND CHARACTERIZATION OF WIDE-BAND GAP SPECTROSCOPIC SOURCES AND DETECTORS Univ of Texas at Austin	Dupuis Russell	N 12 24/06/94 \$139,000	D SCHLOSSBER 94-NE-267	
(COURIP-94) PROCESS CONTROL FOR LASER PROCESSING MATERIALS Central State University	Rengan Alessandro	N 12 24/06/94 \$160,153	D SCHLOSSBER 94-NE-268	

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COURIP-94) ARGON ION LASER FOR STUDIES OF THE EFFECTS OF PARTIALLY  
COHERENT LASER FIELDS ON NONLINEAR INTERACTIONS  
Purdue University  
Elliott

Daniel

N 12  
24/06/94  
\$50,000

D  
SCHLOSSBER  
94-NE-269

COURIP-94) FEMTOSECOND PUMP-PROBE SPECTROSCOPY SYS FOR THE DESIGN  
& CHARACTERIZATION OF HIGH-SPEED ALL-OPTIC MODULATORS AT 1.3 UM  
Sony Institutes of Technology  
Richardson

Dean

N 12  
24/06/94  
\$163,956

D  
SCHLOSSBER  
94-NE-270

COURIP-94) THE DEVELOPMENT OF LOW ENERGY-HIGH RESOLUTION SYNCHRO-  
TRON RADIATION BEAM LINE  
Univ of Nebraska  
Dowben

Peter

N 12  
24/06/94  
\$280,000

D  
SCHLOSSBER  
94-NE-271

COURIP-94) AN INFRARED LASER SOURCE TUNABLE FROM 3-22 MICRONS FOR  
SURFACE NONLINEAR SPECTROSCOPY & TIME-RESOLVED STUDIES  
Univ of Chicago  
Guyot-Sionnest

Philippe

N 12  
24/06/94  
\$62,000

D  
SCHLOSSBER  
94-NE-272

COURIP-94) MULTI-PARTICLE DETECTOR FOR THE STUDY OF THERMOLEULAR  
REACTIONS & ENERGETIC CLUSTER FRAGMENTATION  
Univ of California, San Diego  
Continetti

Robert

N 12  
24/06/94  
\$66,494

D  
SCHLOSSBER  
94-NE-273

COURIP-94) MEASUREMENT OF TRACE GAS SPECIES IN THE ATMOSPHERE WITH  
FTIR SPECTROMETRY  
Pennsylvania State University  
Philbrick

Charles

N 12  
24/06/94  
\$103,393

D  
SCHLOSSBER  
94-NE-274

COURIP-94) ENGINEERING PSCH EQUIPMENT: CHARACTERIZATION & DESIGN  
OPTIMIZATION OF OPTOELECTRONIC DEVICES & INTEGRATED CIRCUITS  
Pennsylvania State University  
Das

Mukunda

N 12  
24/06/94  
\$1,335,549

D  
SCHLOSSBER  
94-NE-275

COURIP-94) INSTRUMENTATION FOR THE EVALUATION OF NONLINEAR OPTICAL  
MATERIALS  
Case Western Reserve University  
Singer

Kenneth

N 12  
27/06/94  
\$129,947

D  
SCHLOSSBER  
94-NE-276

COURIP-94) HIGH AVERAGE POWER, TUNABLE, FEMTOSECOND LIGHT SOURCE  
Univ of Rochester  
Fauchet

Philippe

N 12  
27/06/94  
\$145,000

D  
SCHLOSSBER  
94-NE-277

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COURIP-94) INSTRUMENTATION FOR OPTOELECTRONICS RESEARCH AND DEVELOPMENT LABORATORY Univ of North Carolina	Raja M. Vasin Akhtar	N 12 27/06/94 \$179,585	D SCHLOSSBER 94-NE-278	
COURIP-94) FEMTOSECOND TUNABLE LASER SPECTROSCOPY OF ORGANIC MOLE- CULES AND POLYMERS FOR NON-LINEAR OPTICAL APPLICATIONS New Mexico Highlands University	Overksen Gary	N 12 27/06/94 \$246,290	D SCHLOSSBER 94-NE-279	
COURIP-94) LASER IMAGING AND SPECTROSCOPIC STUDY OF MASS TRANSFER IN A TURBULENT TWO PHASE FLOW Univ of California, Davis	Kennedy Ian	N 12 27/06/94 \$86,593	D SCHLOSSBER 94-NE-280	
COURIP-94) PARALLEL COMPUTATIONS OF DEFLAGRATION TO DETONATION TRANSIT (OUT), ELEC MICROSTRUCTURES & WEAKLY TURBULENT FLUIDS Univ of California, Santa Barbara	dirnir Bjorn	N 12 27/06/94 \$333,673	D SCHLOSSBER 94-NE-281	
COURIP-94) ENHANCED FTIR SPECTROMETER FOR MULTIPLE-STREAM MONITORING Marshall University	Walker David	N 12 27/06/94 \$88,100	D SCHLOSSBER 94-NE-282	
COURIP-94) SEMICONDUCTOR DEVICES FOR IR DETECTION AND PARALLEL ASYNCHRONOUS SENSING SYSTEMS Georgia State University	Perera Unil A.	N 12 27/06/94 \$89,845	D SCHLOSSBER 94-NE-283	
COURIP-94) TIME RESOLVED SITE-SELECTIVE FOURIER-TRANSFORM SPECTRO- SCOPY OF DYNAMIC PROCESSES IN LASER CRYSTALS Univ of Central Florida	Peale Robert	N 12 27/06/94 \$54,887	A SCHLOSSBER 94-NE-284	\$54,887 01/12/94 \$54,887
COURIP-94) PICOSECOND LASER SPECTROSCOPY SYSTEM UPGRADE FOR WIDE JANGAP SEMICONDUCTORS Kansas State University	Jiang Hongxing	N 12 27/06/94 \$95,000	D SCHLOSSBER 94-NE-285	
COURIP-94) BACKWARD WAVE, OSCILLATOR SOURCES FOR TERHERTZ STUDIES Ohio State University	Delucia Frank	N 12 27/06/94 \$148,500	A SCHLOSSBER 94-NE-286	\$74,200 01/02/95 \$74,200



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(DURIP-94) A FEMTOSECOND NEAR FIELD SCANNING OPTICAL MICROSCOPE

Brown University

Nurmikko

Arto

N 12  
27/06/94  
\$107,100D  
SCHLOSSBER  
94-NE-287(DURIP-94) PLANAR LASER INDUCED FLUORESCENCE SYS FOR IGNITION AND  
COMBUSTION STUDIES ON ISOLATED AL PARTIC IN AIR & DECOMPOSITION  
Princeton University

Frederick

N 12  
27/06/94  
\$237,070D  
SCHLOSSBER  
94-NE-288(DURIP-94) OPTICAL PARAMETRIC GENERATOR FOR SPECTROSCOPY OF NON  
LINEAR ORGANIC MATERIALS  
Univ of Central Florida

Stegeman

George

N 12  
27/06/94  
\$81,775D  
SCHLOSSBER  
94-NE-289(DURIP-94) SPIN POPULATION INVERSION IN DILUTED MAGNETIC SEMICONDUCTOR  
HETEROSTRUCTURES  
State University of New York

Petrov

Athos Ch.

N 12  
27/06/94  
\$116,960D  
SCHLOSSBER  
94-NE-290(DURIP-94) IN SITU REAL-TIME CHARACTERIZATION OF NON-LINEAR OPTICAL  
FILMS USING SPECTROSCOPIC ELLIPSOMETRY  
University of Alabama

Kim

Yoon-Talk

N 12  
28/06/94  
\$97,688D  
SCHLOSSBER  
94-NE-291(DURIP-94) HIGH INTENSITY HIGH-RESOLUTION SOLID-STATE TUNABLE LASERS  
IN THE UV-IR FOR INTERFACE CHEMISTRY RESEARCH  
Univ of Southern California

Reisler

Hanna

N 12  
28/06/94  
\$220,000SCHLOSSBER  
94-NE-292(DURIP-94) ULTRA-HIGH INTENSITY LASER SYSTEM FOR THE DEVELOPMENT  
OF SPECTROSCOPIC SOURCES  
Cornell University

Kusko

Bruce

N 12  
28/06/94  
\$361,740D  
SCHLOSSBER  
94-NE-293

(DURIP-94) PHASE CONJUGATE INJECTION LOCKING OF LASER DIODE ARRAYS

Univ of Southern California

Feinberg

Jack

N 12  
28/06/94  
\$82,862A  
SCHLOSSBER  
94-NE-294

(DURIP-94) VISIBLE/NEAR-IR OPTICAL PARAMETRIC OSCILLATOR SYSTEM

Stanford University

Kruer

Charles

N 12  
28/06/94  
\$130,200D  
SCHLOSSBER  
94-NE-295\$82,862  
15/12/94  
\$82,862

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DURIP-94 MEASUREMENT OF THE OVERTONE TRANSITION FREQUENCIES IN  
THE NEAR INFRARED  
Univ of New Hampshire

Chituru

D  
SCHLOSSBER  
94-NE-296

N 12  
28/06/94  
\$58,300

DURIP-94 ALL SOLID STATE LIDAR SYSTEM FOR UPPER ATMOSPHERIC  
WIND/TEMPERATURE MEASUREMENTS AND GUIDE STAR GENERATION  
Univ of Illinois - Urbana Champaign

George

D  
SCHLOSSBER  
94-NE-297

N 12  
28/06/94  
\$188,200

DURIP-94 ON-LINE MONITORING OF LASER ABLATION FOR SYNTHESIS OF  
NANO-CRYSTALLINE INTERMETALLIC COMPOUNDS  
Univ of Illinois - Urbana Champaign

Mazunder

D  
SCHLOSSBER  
94-NE-298

N 12  
28/06/94  
\$213,802

DURIP-94 REAL-TIME INFRARED ABSORPTION SPECTROSCOPY OF SURFACE  
INTERACTIONS DURING THE GROWTH OF HARD CARBON FILMS  
Univ of Illinois

John

D  
SCHLOSSBER  
94-NE-299

N 12  
28/06/94  
\$53,000

DURIP-94 OPTICAL NONLINEARITIES SPECTROSCOPY & NANOSCALE CHARACTER  
IZATION OF MATERIALS WITH SUBPICOSECOND Ti: SAPPHIRE LASER  
Princeton University

Szymon

D  
SCHLOSSBER  
94-NE-300

N 12  
28/06/94  
\$146,770

DURIP-94 DEFENSE UNIVERSITY RESEARCH INSTRUMENTATION PROGRAM  
Florida International University

Kenneth

D  
SCHLOSSBER  
94-NE-301

N 12  
28/06/94  
\$94,182

DURIP-94 A CRYOGENIC TEST CHAMBER FOR FUTURE INFRARED DETECTOR  
DEVELOPMENT  
Cornell University

James

D  
SCHLOSSBER  
94-NE-302

N 12  
28/06/94  
\$126,200

DURIP-94 ELECTRO-OPTICAL SYSTEMS FOR REMOTE SENSING TERRESTRIAL  
BACKGROUND CLUTTER AND NOXIOUS GASES  
Embry-Riddle Aeronautical University

Gulamabas

D  
SCHLOSSBER  
94-NE-303

N 24  
28/06/94  
\$144,293

DURIP-94 2D RAMAN IMAGING MICROSPETROSCOPY OF CR4+ - DOPED SOLID-  
STATE LASER-TYPE MATERIALS  
City College - CUNY

Vladimir

D  
SCHLOSSBER  
94-NE-304

N 12  
28/06/94  
\$156,614

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DURIP-94 MODE LOCKED YI: SAPPHIRE LASER Massachusetts Institute of Technology	HU	N 12 28/06/94 \$50,000	D SCHLOSSBER 94-NE-305	
DURIP-94 FABRICATION OF CUSTOM RARE-EARTH-DOPED ZBLAN FIBERS FOR MID-IR AND BLUE-GREEN SPECTROSCOPIC SENSORS Univ of New Mexico	Jain	N 36 28/06/94 \$173,500	D SCHLOSSBER 94-NE-306	
DURIP-94 SINGLE FREQUENCY TUNABLE DYE/II: SAPPHIRE LASER FOR ION DYNAMICS STUDIES Univ of Colorado	Leone	N 12 28/06/94 \$172,850	D SCHLOSSBER 94-NE-307	
DURIP-94 SUB-PICOSECOND SPECTROSCOPY SYSTEM FOR MATERIALS CHARACTERIZATION Fisk University	Morgan	N 12 28/06/94 \$159,000	D SCHLOSSBER 94-NE-308	
DURIP-94 SPECTROSCOPIC SOURCES FOR STUDY OF THE ENERGETICS AND PERFORMANCE OPTIMIZATION OF DIODE-PUMPABLE COMPACT RARE-EARTH-WAVE Univ of New Mexico	Jain	N 36 28/06/94 \$139,500	D SCHLOSSBER 94-NE-309	
DURIP-94 FEMTOSECOND OPTICAL SPECTROSCOPY SYSTEM Harvard University	Mazur	N 12 28/06/94 \$135,000	D SCHLOSSBER 94-NE-310	
DURIP-94 GIGAWATT THz BEAM SYSTEM FOR LINEAR AND NONLINEAR FIR SPECTROSCOPY Rensselaer Polytechnic Institute	Zhang	N 12 28/06/94 \$172,700	A SCHLOSSBER 94-NE-311	\$172,700 01/12/94 \$172,700
DURIP-94 A PULSED LASER FOR THE STUDY OF DISCHARGE EXCITED RARE GAS MOLECULES Indiana University-Purdue Univ at Indpls	Masters	N 12 28/06/94 \$92,650	D SCHLOSSBER 94-NE-312	
DURIP-94 FEMTOSECOND INFRARED VIBRATIONAL DYNAMICS SPECTROMETER FOR THE STUDY OF SUPERCRITICAL FLUIDS & ENERGETIC MATERIALS Stanford University	Fayer	N 12 28/06/94 \$148,303	SCHLOSSBER 94-NE-313	

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TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
DURIP-94 ACQUISITION OF A HIGH-POWER ULTRA-STABLE LASER HEATED PEDESTAL GROWTH SYSTEM Univ of Georgia	Yen	N 12 28/06/94 \$101,500	D SCHLOSSBER 94-NE-314	
STIGEC OPTOELECTRONIC DEVICES Univ of Delaware	Kolodzey	R 36 01/07/94 \$310,052	A POHRENKE 94-NE-315	\$89,880 15/01/95 \$310,052
OPTICAL AMPLIFICATION AND NONLINEAR OPTICAL PROCESSES IN RANDOM SCATTERING MEDIA City College - CUNY	Alfano	R 36 01/07/94 \$467,249	SCHLOSSBER 94-NE-316	
MULTI-KILOVOLT X-RAY AMPLIFICATION WITH MULTIPHOTON MOLECULAR EXCITATION Univ of Illinois - Chicago	Rhodes	N 36 01/07/94 \$780,000	D SCHLOSSBER 94-NE-317	
SIGAWATT THZ BEAM SYSTEM FOR LINEAR AND NONLINEAR FIR SPECTROSCOPY Rensselaer Polytechnic Institute	Zhang	N 36 01/07/94 \$530,633	SCHLOSSBER 94-NE-318	
DURIP-94 HIGH-RESOLUTION SPATIAL AND TEMPORAL SPECTROSCOPY OF SEMICONDUCTOR NANOSTRUCTURES Emory University	Gilliland	N 12 05/07/94 \$127,570	D SCHLOSSBER 94-NE-319	
DURIP-94 SCANNING PROBE MICROSCOPE BASED ON A FREE ELECTRON LASER Princeton University	Erramilli	N 12 05/07/94 \$154,500	D SCHLOSSBER 94-NE-320	
DURIP-94 REAL-TIME PROCESSED MATERIALS CHARACTERIZATION BY LASER DESORPTION Columbia University	Herman	N 12 05/07/94 \$158,708	D SCHLOSSBER 94-NE-321	
NON-STOICHIOMETRIC LAYERS OF III/V SEMICONDUCTORS Univ of California, Berkeley	Heber	R 36 08/07/94 \$599,963	WITT 94-NE-322	

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INSTITUTION

INVESTIGATOR

NON-STOICHIOMETRIC LAYERS OF III/V SEMICONDUCTORS

Univ of California, Berkeley

Weber

Eicke

PROCESS MODELS FOR INFRARED FOCAL PLAN ARRAY FLEXIBLE  
MANUFACTURING  
SRI International

Sher

Arden

PERFORMANCE ENHANCEMENT IN OPTICAL COMPUTING

Texas Tech University

Walkup

John

DURIP-94 DYNAMICS OF BIOLOGICAL REACTIONS STUDIED BY IN SITU  
PHOTOLYSIS  
Cornell University

Hess

George

HIGH BRIGHTNESS BLUE LED'S

Advanced Technology Materials Inc.

Tischler

Michael

ISOLATION TECHNIQUES FOR HIGH TEMPERATURE INTEGRATED SENSOR/  
ELECTRONICS APPLICATIONS  
Advanced Technology Materials Inc.

Buchan

Nicholas

GROWTH OF BULK SINGLE CRYSTAL ALN SUBSTRATES FOR ALXGAI-XN EPIITAXY

APA Optics Inc

Khan

M. Asif

THE PHYSICS OF HIGH VOLTAGE BREAKDOWN

Naval Post Graduate School

Schwirzke

F

DURIP-94 ARO-URI CENTER FOR OPTO-ELECTRONIC SYSTEMS RESEARCH

Univ of Rochester

Boyd

Robert

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N 36 08/07/94 \$599,963	A MITT 94-NE-323	\$160,000 16/12/94 \$495,000
N 36 11/07/94 \$462,426	A POMRENKE 94-NE-324	\$74,948 01/11/94 \$462,426
N 36 11/07/94 \$524,132	A CRAIG 94-NE-325	\$119,087 15/01/95 \$418,671
N 12 11/07/94 \$237,602	D SCHLOSSBER 94-NE-326	
N 06 11/07/94 \$100,000	A POMRENKE 94-NE-327	\$100,000 30/09/94 \$100,000
N 06 11/07/94 \$100,000	A POMRENKE 94-NE-328	\$99,999 15/09/94 \$100,000
N 06 12/07/94 \$99,984	A POMRENKE 94-NE-329	\$99,984 30/09/94 \$99,984
N 12 12/07/94 \$71,018	D BARKER 94-NE-330	
N 24 12/07/94 \$480,897	D SCHLOSSBER 94-NE-331	

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TITLE (TITLE (CONT.)) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
DURIP-94 NANOSTRUCTURE OPTOELECTRONIC MATERIALS AND DEVICE RESEARCH USING TUNABLE ULTRAFAST LASER SYSTEMS Oklahoma State University	Song	N 24 12/07/94 \$132,500	D SCHLOSSBER 94-NE-332	
DURIP-94 DYNAMICS OF BIOLOGICAL REACTIONS STUDIED BY IN SITU PHOTOLYSIS Cornell University	Hess	N 12 15/07/94 \$237,602	D SCHLOSSBER 94-NE-333	
READ/WRITE MODULE FOR HIGH CAPACITY MEMORY DISK Holoplex	Mok	N 06 20/07/94 \$69,976	A CRAIG 94-NE-334	\$69,976 30/09/94 \$69,976
CARRIER DYNAMICS AND DEFECTS IN GAAS AND RELATED PHOTOCONDUCTORS Univ of Michigan	Norris	N 36 27/07/94 \$450,000	WITT 94-NE-335	
SMART PIXELS FOR IMAGE COMPUTING Univ of North Carolina	Klamilov	N 36 28/07/94 \$344,705	A CRAIG 94-NE-336	\$62,463 15/03/95 \$242,962
A THEORETICAL STUDY OF E <sup>+</sup> DEFECT CENTERS IN SiO2 Univ of Massachusetts	Cook	N 36 28/07/94 \$246,860	D WITT 94-NE-337	
MODELING, SIMULATION AND DESIGN OF HIGH PRESSURE CRYSTAL GROWTH PROCESSES GT Equipment Tech Inc	Gupta	N 12 01/08/94 \$100,000	A POMRENKE 94-NE-338	\$99,975 01/10/94 \$100,000
MURI94 TRI-UNIVERSITY, MULTIDISCIPLINARY, HIGH ENERGY, MICROWAVE DEVICE CONSORTIUM Texas Tech University	Kristiansen	N 36 03/08/94 \$3,000,000	A BARKER 94-NE-339	\$1,000,000 15/03/95 \$5,000,000
MURI94 CONSORTIUM ON HIGH ENERGY MICROWAVE SOURCES Univ of California, Davis	Luhmann	N 36 03/08/94 \$3,000,000	A BARKER 94-NE-340	\$0 01/02/95 \$5,000,000

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MURI94 DEVELOPMENT OF CATHODELESS ELECTRON BEAM SOURCES Univ of California, Los Angeles	Chen Francis	N 36 03/08/94 \$903,077	BARKER 94-NE-341	
MURI 94 DEVELOPMENT OF A HIGH POWER MICROWAVE SYSTEM Univ of Alabama	Biggs Albert	N 36 03/08/94 \$4,547,487	BARKER 94-NE-342	
MURI 94 AN INTEGRATED PROGRAM TO ESTABLISH THE VALIDITY OF NEW PLASMA-BASED AND HIGHER HARMONIC HIGH POWER MICROWAVE CONCEPTS Univ of Southern California	Gundersen Martin	N 36 03/08/94 \$3,536,643	BARKER 94-NE-343	
MURI 94 GYRO-HARMONIC MECHANISMS FOR GENERATING INTENSE RADIATION Yale University	Hirshfield Jay	N 36 03/08/94 \$3,000,000	BARKER 94-NE-344	
MURI 94 COMPACT MILLIMETER - WAVE POWER SOURCE USING NOVEL COLD - CATHODES New Jersey Institute of Technology	Ravindra Ravi	N 36 03/08/94 \$1,416,584	BARKER 94-NE-345	
MURI 94 NOVEL ELECTRON BEAM CONFIGURATIONS FOR HIGH ENERGY MILLIMETER-WAVE AMPLIFIERS Univ of Wisconsin	Booske John	N 36 03/08/94 \$2,449,254	BARKER 94-NE-346	
MURI94 RESEARCH ON COMPACT, HIGH-ENERGY, MICROWAVE SOURCES Univ of Maryland	Granatstein Victor	N 36 04/08/94 \$3,000,000	A BARKER 94-NE-347	\$1,000,000 15/03/95 \$5,000,000
PRECISE TIME AND TIME INTERVAL APPLICATIONS AND PLANNING MEETING NASA - Goddard Space Flight Center	Granata Raymond	N 01 04/08/94 \$5,750	A KELLEY 94-NE-348	\$5,750 01/09/94 \$17,250
NOVEL MULTI-LAYER OPTICAL STORAGE TECHNOLOGY Reveo INC	Faris Sadeq	N 24 08/08/94 \$699,759	A CRAIG 94-NE-349	\$699,992 15/03/95 \$700,000

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TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
ADVANCED THERMIONICS RESEARCH INITIATIVE (ATRI) 2000 (COOPERATIVE AGREEMENT NO F30602-94-2-0001 FROM RL) Univ of California, Davis	Luhmann, Jr Neville	N 60 09/08/94 \$2,500,000	A BARKER 94-NE-350	\$450,000 01/10/94 \$450,000
INVESTIGATION OF POSSIBLE SUPERCONDUCTIVITY IN CARBON NANOTUBES California State University	Jishi Radi	N 24 11/08/94 \$97,496	D WEINSTOCK 94-NE-351	
1995 GORDON RESEARCH CONFERENCE ON OPTICAL INFORMATION PROCESSING AND HOLOGRAPHY Gordon Research Conferences Inc	Cathy W. Thomas	N 06 15/08/94 \$6,480	CRAIG 94-NE-352	
APPLICATION OF LASER THREE-DIMENSIONAL PROCESSING TO 410DEVICES Massachusetts Institute of Technology	Ehrlich Daniel	N 36 15/08/94 \$300,000	A SCHLOSSBER 94-NE-353	\$300,000 01/02/95 \$300,000
A DC TO AC CONVERTER FOR RADIATION BASED ON A LASER IONIZED CAPACITOR ARRAY Univ of Southern Cal -- School of Eng	Katsouleas Thomas	N 36 15/08/94 \$435,000	A BARKER 94-NE-354	\$140,000 01/04/95 \$435,000
FABRICATION OF SELF-SUPPORTING ALN SINGLE CRYSTAL THIN FILM SUBSTRATES BY VAN DER WAALS LIFT-OFF TECHNIQUE Univ of Washington	Onuchi Fumio	N 36 29/08/94 \$180,000	A POMRENKE 94-NE-355	\$65,000 01/02/95 \$180,000
PROGRAM TO STUDY AC LOSS IN HIGH-TC SUPERCONDUCTORS WJC Research and Development	Carr, Jr W.	N 36 30/08/94 \$141,733	A WEINSTOCK 94-NE-356	\$52,300 01/03/95 \$141,733
INTEGRATED WAVELENGTH-SPACE-TIME OPTICAL MULTIPLEXING TECHNOLOGIES & ARCHITECTURES FOR LARGE-SCALE, RECONFIGURABLE, MULTIPLE-ACCESS Univ of New Mexico	Cheng Julian	N 36 01/09/94 \$627,191	CRAIG 94-NE-357	
ADVANCED MAGNETIC MATERIALS AND THEIR APPLICATIONS Utah State University	Pan Ching-Yan	N 24 02/09/94 \$265,132	D WEINSTOCK 94-NE-358	



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ULTRASOUND IMAGING OF BOUNDARY LAYER TURBULENCE Texas Tech University	Mehrl David	N 24 02/09/94 \$117,135	D CRAIG 94-NE-359	
TUNNELING OF MAGNETIZATION Lehman College Of Cuny	Chudnovsky Eugene	N 36 06/09/94 \$350,508	A WEINSTOCK 94-NE-360	\$111,213 15/03/95 \$350,508
SUPPLY LIQUID HELIUM TO UNIV OF CALIFORNIA, SAN DIEGO IN CONNECTION WITH PROPOSAL #94NE234 Univ of California, San Diego	Dynes R.	N 36 07/09/94 \$30,000	A WEINSTOCK 94-NE-361	\$10,000 15/10/94 \$30,000
SUPPLY LIQUID HELIUM TO STANFORD UNIVERSITY IN CONNECTION WITH PROPOSAL #94NE231 Stanford University	Beasley M.	N 36 07/09/94 \$90,000	A WEINSTOCK 94-NE-362	\$30,000 01/10/94 \$90,000
BASIC STUDIES IN PLASMA PHYSICS Outgers - The State University	Lebowitz Joel	N 36 07/09/94 \$299,961	A BARKER 94-NE-363	\$99,987 01/04/95 \$499,935
TOWARD A THEORY OF LT GAAS (ECU 94-767) SRI International	Sher Arden	N 36 16/09/94 \$439,781	D WITT 94-NE-364	
IMAGING THROUGH TURBULENCE Environmental Rsch Institute of Mich	Paxman Richard	N 36 19/09/94 \$363,552	A CRAIG 94-NE-365	\$122,128 01/04/95 \$363,551
OPTOELECTRONIC COMPUTER ARCHITECTURE DEVELOPMENT FOR IMAGE RECONSTRUCTION Hughes Research Laboratories	Efron Uzi	N 24 20/09/94 \$631,494	A CRAIG 94-NE-366	\$80,972 01/04/95 \$405,019
ELECTRON TRANSPORT IN COUPLED QUANTUM QDTS Massachusetts Institute of Technology	Antoniadis Dimitri	N 36 21/09/94 \$569,925	A WITT 94-NE-367	\$179,408 01/04/95 \$569,926

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INSTITUTION

INVESTIGATOR

CONTACTLESS ELECTROMODULATION SPECTROSCOPY FOR THE  
CHARACTERIZATION/QUALIFICATION OF SEMICONDUCTOR DEVICE STRUCTURES  
Pollak  
Brooklyn College of Cuny

Fred

STORAGE AND TRANSPORT OF ANTIPROTONS  
Pennsylvania State University

Smith

Gerald

BASIC RESEARCH IN ELECTRONICS (JSEP)  
Univ of Texas at Austin

Powers

Edward

TYPE/MONTHS  
RECEIVED  
AMOUNT

STATUS  
PROGRAM MANAGER  
PROPOSAL #

INITIATE  
START DATE  
TOT AMT

N 36  
22/09/94  
\$500,726

D

WITT

94-NE-368

N 12  
26/09/94  
\$80,000

A

KELLEY

94-NE-369

\$0  
01/04/95  
\$80,000

N 36  
28/09/94  
\$2,545,300

A

SMITH

94-NE-370

\$405,000  
15/05/95  
\$2,256,057

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UNITED STATES - JAPAN INDUSTRY AND TECHNOLOGY MANAGEMENT TRAINING PROGRAM Univ of Arizona	Kingery	N 36 03/06/94 \$3,226,122	A WHITE 94-NI-023	
UNITED STATES - JAPAN INDUSTRY AND TECHNOLOGY MANAGEMENT TRAINING PROGRAM Univ of Dayton	Shaw	N 36 08/06/94 \$2,841,967	A WHITE 94-NI-024	
UNITED STATES - JAPAN INDUSTRY AND TECHNOLOGY MANAGEMENT TRAINING PROGRAM Univ of California, Berkeley	Cole	N 36 08/06/94 \$1,673,482	A WHITE 94-NI-025	\$532,880 01/11/94 \$1,674,076
UNITED STATES - JAPAN INDUSTRY AND TECHNOLOGY MANAGEMENT TRAINING PROGRAM Univ of Texas at Austin	Phillips	N 36 08/06/94 \$754,272	A WHITE 94-NI-026	
UNITED STATES - JAPAN INDUSTRY AND TECHNOLOGY MANAGEMENT TRAINING PROGRAM Univ of New Mexico	Lopez	N 36 08/06/94 \$2,607,866	A WHITE 94-NI-027	\$869,289 01/11/94 \$2,607,866
UNITED STATES - JAPAN INDUSTRY AND TECHNOLOGY MANAGEMENT TRAINING PROGRAM Georgia Tech Research Corporation	Endicott	N 36 08/06/94 \$4,502,789	A WHITE 94-NI-028	
UNITED STATES - JAPAN INDUSTRY AND TECHNOLOGY MANAGEMENT TRAINING PROGRAM Stanford University	Harris	N 36 08/06/94 \$2,533,198	A WHITE 94-NI-029	\$697,635 01/10/94 \$2,266,800
US-JAPAN INDUSTRY AND TECHNOLOGY MANAGEMENT TRAINING PROGRAM Univ of California, Los Angeles	TORRE	N 36 08/06/94 \$4,428,278	A WHITE 94-NI-031	
US JAPAN INDUSTRY AND TECHNOLOGY MANAGEMENT TRAINING PROGRAM Univ of Kentucky	SADLER	N 36 08/06/94 \$1,109,697	A WHITE 94-NI-032	

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UNITED STATES - JAPAN INDUSTRY AND TECHNOLOGY MANAGEMENT TRAINING PROGRAM Purdue Research Foundation	Plante	N 36 08/06/94 \$3,937,981	A WHITE 94-NI-033	
US-JAPAN INDUSTRY AND TECHNOLOGY MANAGEMENT TRAINING PROGRAM Univ of Pittsburgh	BROWN	N 36 08/06/94 \$2,604,485	A WHITE 94-NI-034	\$859,985 15/10/94 \$2,604,486
UNITED STATES - JAPAN INDUSTRY AND TECHNOLOGY MANAGEMENT TRAINING PROGRAM Vanderbilt University	Kawamura	N 36 08/06/94 \$1,792,161	A WHITE 94-NI-035	\$606,926 01/10/94 \$1,738,059
WINDOW ON SCIENCE FOR THE AMERICAS Phillips Lab - Geophysics Directorate	Victor Hugo	N 01 09/06/94 \$1,886	A ZAR80 94-NI-036	\$1,310 19/06/94 \$1,886
US-JAPAN INDUSTRY AND TECHNOLOGY MANAGEMENT TRAINING PROGRAM Utah Asian Consortium	Collinswood	N 36 09/06/94 \$2,746,585	A WHITE 94-NI-037	\$950,464 31/10/94 \$2,746,585
US-JAPAN INDUSTRY AND TECHNOLOGY MANAGEMENT TRAINING PROGRAM Kodenkandeth Institute	JOHN	N 36 13/06/94 \$2,460,375	A WHITE 94-NI-038	
US-JAPAN INDUSTRY AND TECHNOLOGY MANAGEMENT TRAINING John Hopkins University Center	GREEN	N 12 13/06/94 \$777,500	A WHITE 94-NI-039	
KNOWLEDGE DISCOVERY THROUGH DATA CLASSIFICATION AND RULE EXTRACTION USING ROUGH SETS Wright Lab	Ziarko	N 01 20/06/94 \$2,070	A ZAR80 94-NI-040	\$1,536 13/07/94 \$2,070
MEASUREMENTS IN THE CONTINUUM OF SOLAR EMISSIONS IN THE FAR INFRARED AND SUB-MILLIMETER WAVELENGTH RANGES Phillips Laboratory	Kaufmann	N 01 21/06/94 \$3,044	A ZAR80 94-NI-041	\$3,044 17/09/94 \$3,044

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ASTRONOMY ORIENTED SCIENCE CENTER Univ of New Mexico	McGraw	N 48 24/06/94 \$5,800,000	A HARITOS 94-NI-042	\$2,000,000 30/09/94 \$5,800,000
ASTRONOMY ORIENTED SCIENCE CENTER Chabot Observatory & Science Center	Reynolds	N 60 24/06/94 \$5,800,000	A HARITOS 94-NI-043	\$8,736,500 01/09/94 \$4,975,500
UNITED STATES - JAPAN INDUSTRY AND TECHNOLOGY MANAGEMENT TRAINING PROGRAM Univ of Maryland	Horse	N 36 28/06/94 \$4,953,526	A WHITE 94-NI-044	
BASIC RESEARCH IN RADAR SURVEILLANCE TECHNOLOGY Georgia Institute of Tech	Currie	N 12 01/09/94 \$127,030	A SHELDON 94-NI-045	\$127,030 01/10/94 \$127,030
MATHEMATICAL ASPECTS OF ATMOSPHERIC STRUCTURE SIMULATIONS Worcester Polytechnic Institute	Humi	N 12 01/09/94 \$105,210	A SHELDON 94-NI-046	\$105,210 01/10/94 \$105,210
THEORY OF SECOND HARMONIC GENERATION IN SPATIALLY PERIODIC NONLINEAR MEDIA Kent State University	Moroi	N 11 01/09/94 \$92,345	A SHELDON 94-NI-047	\$92,345 01/10/94 \$92,345
BASIC RESEARCH IN ADAPTIVE CONTROL AND GUIDANCE OF SPACECRAFT Texas Engineering Experiment Station	Vadali	N 12 02/09/94 \$116,800	A SHELDON 94-NI-048	\$86,300 01/01/94 \$86,300
ASSESSMENT OF ELECTRO-OPTICAL MATERIALS/PROCESS DESIGN DISCOVERY METHODS Wright Lab	LeClair	N 01 02/09/94 \$7,881	A ZARRO 94-NI-049	\$6,560 15/10/94 \$7,881
JOINT RESEARCH ON SURVEILLANCE SYSTEMS Georgia Tech Research Corporation	McMillan	N 12 06/09/94 \$132,140	A SHELDON 94-NI-050	\$132,140 01/10/94 \$132,140

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SYNTHESIS, INTERFACES AND PROPERTIES OF NANODISPERSED ALUMINIUM ALLOYS Indian Institute of Science	Chattopadhyay K	N 24 16/09/94 \$24,725	A WHITE 94-NI-051	\$24,725 01/01/95 \$24,725
AIRBORNE GISTATIC RADAR APPLICATIONS OF SPACE-TIME				
Syracuse Univ - Dept Elec & Computer Eng	Wang Hong	N 12 19/09/94 \$95,384	A SHELDON 94-NI-052	\$95,384 01/10/94 \$95,384
URRP SABATICAL PROPOSAL				
Oklahoma State University	Martin Joel	N 09 20/09/94 \$44,986	A SHELDON 94-NI-053	\$44,986 01/10/94 \$44,986
NATIONAL DEFENSE SCIENCE AND ENGINEERING GRADUATE PROGRAM				
Army Research Office	Helm Dave	N 12 27/09/94 \$115,842	A SHELDON 94-NI-054	\$115,842 01/10/94 \$115,842
SOURCE MECHANISMS AND RADIO EFFECTS OF IONOSPHERIC PLASMA DISTURBANCES				
Spston University	Lee Min-Chang	N 12 28/09/94 \$80,056	A SHELDON 94-NI-055	\$80,056 01/10/94 \$80,056

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EYE MOVEMENTS, TARGET SALIENCE, ACQUISITION AND TRACKING THROUGH F LASH EFFECTS Univ of Kentucky	Schweisser Elmer	N 36 07/06/94 \$176,631	D COLLINS 94-NL-216	
THE MECHANISMS & EFFECTS OF THE PLANT ACTIVATION OF CHEMICALS IN THE ENVIRONMENT Univ of Illinois - Urbana Champaign	Plewa Michael	R 36 07/06/94 \$505,841	KOZUMBO 94-NL-217	
CHROMIUM TOXICITY: REDUCTIVE ENZYMES IN HUMANS Medical College of Wisconsin	Myers Charles	N 36 07/06/94 \$363,696	A KOZUMBO 94-NL-218	\$241,633 01/04/95 \$363,696
RADICAL INTERMEDIATES OF HALOACETIC ACIDS Tulane Univ -- School of Medicine	Bernofsky Carl	N 12 07/06/94 \$109,244	A KOZUMBO 94-NL-219	\$125,027 01/04/95 \$250,932
IN SITU DOSE-RESPONSE RELATIONSHIPS FOR A MAMMALIAN MULTIPARAMETER MODEL FOR ASSESSING PETROCHEMICAL-INDUCED ECOTOXICITY Oklahoma State University	Lochmiller III Robert	R 36 08/06/94 \$649,339	A KOZUMBO 94-NL-220	\$245,506 01/04/95 \$662,302
HUMAN TETRACHLOROETHYLENE HEPATOTOXICITY Johns Hopkins University	Risby Terence	N 36 08/06/94 \$746,714	A KOZUMBO 94-NL-221	\$233,213 15/03/95 \$746,714
MEASUREMENT AND REGULATION OF CENTRAL NORADRENERGIC RECEPTORS New York University Medical Center	Stone Eric	R 36 09/06/94 \$389,250	D HADDAD 94-NL-222	
SCIENCE AND TECHNOLOGY OF FULLERENE MATERIALS Materials Research Society	Metzger Robert	N 12 09/06/94 \$5,000	D LEE 94-NL-223	
STUDIES OF TRIGGERED LIGHTNING CONDITIONS USING A DUAL-POLARIZATIO N RADAR New Mexico Institute of Mining and Tech	Krehbiel Paul	N 02 10/06/94 \$15,540	KROLL 94-NL-224	

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EFFECTS OF IMMERSION ON SCENE PERCEPTION AND LOCOMOTION CONTROL IN VIRTUAL FLIGHT ENVIRONMENTS Systems Research Laboratories Inc.	Beer	N 36 14/06/94 \$350,349	D COLLINS 94-NL-225	
SPATIAL DISORIENTATION AND CONTROL OF THE HEAD AND NECK Brandeis University	Lackner	N 36 23/06/94 \$298,339	COLLINS 94-NL-226	
NMR CHARACTERIZATION OF POLYMERS FORMED IN DIAZOTIZING MIXTURES OF LUMINOL AND 3-AMINO-L-TYROSINE Southeastern Oklahoma St U-Phys Sci Dpt	Wright	R 36 23/06/94 \$166,396	A KOZUMBO 94-NL-227	\$109,490 15/04/95 \$166,396
DEVELOPMENT OF SURFACE FEATURE OPTICS FOR LASER COMMUNICATIONS AND IMAGING APPLICATIONS Gel-tech, Inc.	Noques	N 24 24/06/94 \$497,502	A LEE 94-NL-228	\$499,490 01/05/95 \$499,490
COMPARISON OF BACTERIORHODOPSIN AND PHOTOREFRACTIVES AS NONLINEAR OPTICAL MATERIALS FOR IMAGE PROCESSING AND SENSOR PROTECTION Tufts University	Cronin-Golomb	N 36 27/06/94 \$421,277	D LEE 94-NL-229	
THEORETICAL STUDIES TO AID THE DESIGN AND UNDERSTANDING OF MAXIMUM PERFORMANCE MOLECULAR/MACROMOLECULAR NONLINEAR OPTICAL MATERIALS Northwestern University	Ratner	N 36 27/06/94 \$346,979	D LEE 94-NL-230	
SMART MOLECULAR VELCRO FOR ADHESIVE BONDS Case Western Reserve University	Koenig	N 36 27/06/94 \$480,575	D LEE 94-NL-231	
FY94 DURIP STUDY OF ANION-MOLECULAR REACTION DYNAMICS WITH PHOTOE LECTRON SPECTROSCOPY Univ of California, Berkeley	Neuemark	N 12 27/06/94 \$164,432	A BERMAN 94-NL-232	\$164,432 01/12/94 \$164,432
FY94 DURIP AN ULTRAFAST LASER SYSTEM FOR STUDYING THE OPTICAL EXCI TATION, DYNAMICS OF IONIZATION AND BONDING OF MET-CARS: A NEW .... Pennsylvania State University	A. Welford	N 12 27/06/94 \$180,000	D BERMAN 94-NL-233	



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FY94 DURIP SENSITIVE DETECTION AND ANALYSIS OF TRACE SPECIES BY CAVITY ABSORPTION RING-DOWN SPECTROSCOPY Stanford University	Zare Richard	N 12 27/06/94 \$59,743	D BERMAN 94-NL-234	
FY94 DURIP A FEMTOSECOND INFRARED DIFFERENCE FREQUENCY SPECTROMETER FOR VIBRATIONAL SPECTROSCOPY & DYNAMICS OF SURFACES & INTERFACES Univ of California, Berkeley	Saykally Richard	N 12 27/06/94 \$720,836	D BERMAN 94-NL-235	
FY94 DURIP ULTRAFAST STUDIES OF ENERGETIC MATERIAL INITIATION BY SHOCK WAVES USING OPTICAL NANOGAUGES: THE FIRST TEN NANoseconds Univ of Illinois	Doltt Dana	N 24 27/06/94 \$279,000	M BERMAN 94-NL-236	
FY94 DURIP ENHANCEMENT OF GEOCHEMISTRY INSTRUMENTATION AND RESEARCH CAPABILITIES New Mexico Highlands University	Kenny Ray	N 12 27/06/94 \$181,845	D BERMAN 94-NL-237	
FY94 DURIP INTERNAL ENERGY IN CONDENSED PHASE REACTION DYNAMICS Univ of Wisconsin	Crim F. Fleming	N 12 27/06/94 \$248,000	A BERMAN 94-NL-238	\$248,000 01/12/94 \$248,000
FY94 DURIP A BROADLY TUNABLE PICOSECOND LASER SYSTEM FOR NONLINEAR OPTICAL STUDIES OF NOVEL MOLECULAR CRYSTALS AND POLYMERS Auburn University	Thakur Mrinal	N 12 27/06/94 \$165,000	D BERMAN 94-NL-239	
FY94 DURIP ACQUISITION OF KMZ FEMTOSECOND REGENERATIVE AMPLIFIER Univ of California, Irvine	Adkarian Vartkess	N 12 27/06/94 \$145,025	D BERMAN 94-NL-240	
FY94 DURIP INSTRUMENTATION FOR FEMTOSECOND PULSED LASER DEPOSITION Oklahoma State University	Raff Lionel	N 24 27/06/94 \$132,000	D BERMAN 94-NL-241	
FY94 DURIP WEAK INTERACTIONS INVOLVING LIGHT ATOMS Johns Hopkins University	Daydigan Paul	N 12 27/06/94 \$125,940	A BERMAN 94-NL-242	\$125,940 01/12/94 \$125,940

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FY94 DURIP AN OPTICAL PARAMETRIC OSCILLATOR SYSTEM 220NM-4. SUM: A MULTI-USER FACILITY Massachusetts Institute of Technology	Field	N 12 27/06/94 \$162,215	D BERMAN 94-NL-243	
FY94 DURIP LASER SYSTEM FOR SPECTROSCOPIC LIGHT SOURCE DEVELOPMENT Tufts University	Kenny	N 12 27/06/94 \$103,100	D BERMAN 94-NL-244	
THE PATTERN OF ACOUSTIC CUES MEDIATING SPATIAL HEARING PERFORMANCE Wright State University	Gilkey	N 36 28/06/94 \$872,506	A COLLINS 94-NL-245	\$162,497 15/12/94 \$501,197
THE CHEMISTRY OF POLYIMIDES AT ELEVATED TEMPERATURES Univ of Connecticut	Scola	N 36 29/06/94 \$487,150	LEE 94-NL-246	
THE INFLUENCE OF RHIZOSPHERE MICROORGANISMS ON THE BIODEGRADATION OF NITROAROMATICS Alabama A&M University	Floyd	N 36 07/07/94 \$359,810	D KOZUMBO 94-NL-247	
GROUP IV QUANTUM STRUCTURES: THE CHEMISTRY AND PHYSICS OF SIZE AND SHAPE Univ of California, Los Angeles	Heath	N 36 07/07/94 \$323,141	D ERSTFELD 94-NL-248	
EXPLORATION OF PRIMING ON IMPLICIT MEMORY TESTS Rice University	Roediger, III	R 36 07/07/94 \$380,136	HADDAD 94-NL-249	
COMPUTER-SUPPORTED COLLABORATIVE LEARNING ENVIRONMENTS TO FOSTER C OMPLEX COGNITIVE SKILLS Univ of Pittsburgh	Katz	N 36 07/07/94 \$299,379	D HADDAD 94-NL-250	
DICHLOROACETATE PHARMACOKINETICS AND METABOLISM IN HEALTHY HUMAN S UBJECTS Univ of Florida	Stacpoole	N 36 07/07/94 \$583,889	D KOZUMBO 94-NL-251	

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NEUROFILAMENT PROTEIN ADDUCTS: MEDIATORS OF TOXIC NEUROPATHY AND P OTENTIAL LONG-TERM EXPOSURE MARKERS New York State Dept of Health	DeCaprio Anthony	N 36 07/07/94 \$311,059	D KUZUMBO 94-NL-252	
MECHANISM(S) OF MOLECULAR RESPONSE IN MAMMALIAN CELLS TO PHYSICAL AGENTS Univ of Texas Health Science Ctr	Meltz Martin	R 36 12/07/94 \$1,154,797	A KUZUMBO 94-NL-253	\$203,633 15/04/95 \$654,881
FUNDAMENTAL STRUCTURE-FUNCTION STUDIES OF THE ANTIFREEZE PROTEINS Univ of Missouri	Welsh William	N 36 14/07/94 \$201,678	D HEDBERG 94-NL-254	
STRUCTURE/FUNCTION STUDIES OF INSECT ANTIFREEZE PROTEINS Univ of Notre Dame	Duman John	N 36 14/07/94 \$180,000	A HEDBERG 94-NL-255	\$120,000 01/03/95 \$180,000
BIODEGRADATION OF POLYMERIC COMPOSITES AND COATINGS Univ of Dayton	Thorp Katie	N 36 15/07/94 \$237,130	A HEDBERG 94-NL-256	\$77,030 01/03/95 \$237,130
THEORETICAL STUDIES OF GAS PHASE ELEMENTARY REACTIONS Emory University	Morokuma Keiji	N 36 15/07/94 \$323,785	A BERMAN 94-NL-257	\$100,794 15/02/95 \$311,794
SURFACE-SCIENCE STUDIES OF THE INITIAL STAGES OF CORROSION AND PAS SIVATION OF ALUMINUM ALLOYS Yale University	Henrich Victor	N 36 20/07/94 \$317,138	ERSTFELD 94-NL-258	
VAPOR-GEL METHOD FOR CONTROLLED DEPOSITION AND ATOMIC LEVEL MANIPU LATION OF CERAMIC THIN FILMS Univ of Utah	Xu Ren	N 36 20/07/94 \$134,913	ERSTFELD 94-NL-259	
PROBING THE DROSOPHILA CIRCADIAN SYSTEM USING ENHANCER DETECTORS Texas A and M Research Foundation	Hardin Paul	N 36 20/07/94 \$327,900	A HADDAD 94-NL-261	\$218,292 01/03/95 \$327,992

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PHYSIOLOGICAL IDENTIFICATION AND CLINICAL TREATMENT OF RISK FACTORS FOR G-LAYOFF EFFECTS AND G-INTOLERANCE Armstrong Laboratory	Converino Victor Anthony	N 36 20/07/94 \$393,065	COLLINS 94-NL-262	
STUDIES IN LONG-TERM MEMORY Duke University	Rubin David	N 36 25/07/94 \$268,876	HADDAD 94-NL-263	
THRESHOLD AND SUPRATHRESHOLD LATERAL SPATIAL INTERACTIONS IN BRIGHTNESS, CONTRAST AND STEREOSCOPIC DEPTH PERCEPTION North Dakota State University	McCourt Mark	N 36 25/07/94 \$350,126	D COLLINS 94-NL-264	
INVESTIGATION OF PHYSIOLOGICAL REFLEXES AND SENSORY CUES TOWARD THE DEVELOPMENT OF A MODEL OF SPATIAL ORIENTATION Wright State University	Gallimore Jennie	N 36 25/07/94 \$296,017	D COLLINS 94-NL-265	
THE EFFECTS OF ATTENTION ON FOCAL VS. AMBIENT VISUAL PROCESSES Univ of Central Florida	Gilson Richard	N 24 25/07/94 \$176,532	COLLINS 94-NL-266	
OPTICAL AND COGNITIVE DETERMINANTS OF JUDGMENTS ABOUT COLLISION Texas Tech University	DeLucia Patricia	N 36 25/07/94 \$229,633	D COLLINS 94-NL-267	
STRUCTURE-FUNCTION STUDIES OF NATIVE AND RECOMBINANT FISH ANTIFREEZE PROTEINS Univ of Illinois	Cheng-Devries Chi-Hing	N 36 26/07/94 \$360,000	A HEDBERG 94-NL-268	\$120,000 01/03/95 \$360,000
GAS PHASE AND SURFACE REACTIVITY OF HIGHLY VIBRATIONALLY AND TRANSITIONALLY EXCITED MOLECULES Univ of California, Santa Barbara	Modtke Alec	N 36 26/07/94 \$354,917	A BERMAN 94-NL-269	\$252,534 01/03/95 \$354,917
GORDON RESEARCH CONFERENCE ON CHRONOBIOLOGY Gordon Research Conferences Inc	Daan Serge	N 12 26/07/94 \$8,000	A HADDAD 94-NL-270	\$8,000 01/04/95 \$8,000

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SOLID STATE IONICS Materials Research Society	Ballance	N 12 26/07/94 \$5,000	D ERSTFELD 94-NL-271	
DENSITY FUNCTIONAL THEORY FOR LARGE MOLECULAR SYSTEMS AND APPLICATIONS TO METALS Rice University	Scuseria	N 36 29/07/94 \$383,217	A BERMAN 94-NL-272	\$125,000 01/03/95 \$330,000
MECHANISMS OF PHOTO-OXIDATIVE STRESS IN RETINAL PIGMENT EPITHELIUM: IS MELANIN A PHOTOSENSITIZER Univ of Texas Health Science Ctr	Glickman	R 36 29/07/94 \$434,065	A KOZUMBO 94-NL-273	\$137,818 01/05/95 \$434,064
BACTERIAL STRAIN IMPROVEMENT FOR BIOREMEDIATION Illinois Institute of Technology	Webster	N 36 29/07/94 \$388,295	A KOZUMBO 94-NL-274	\$254,444 01/05/95 \$388,295
SURFACE AND INTERFACIAL STUDIES RELATED TO OXIDATION PROTECTION OF CARBON-CARBON COMPOSITES Kansas State University	Sherwood	R 36 02/08/94 \$328,927	ERSTFELD 94-NL-275	
SITE-SPECIFIC MOLECULE-SURFACE INTERACTIONS ON METAL OXIDES Univ of Southern California	Wittig	R 36 02/08/94 \$521,546	A BERMAN 94-NL-276	\$369,755 01/04/95 \$369,755
ATTRACTORS AND DISSIPATIVE ACTION CONTROL NETWORK FUNCTION AND STRUCTURE Oregon State University	Maitso	R 36 03/08/94 \$647,290	D HADDAD 94-NL-277	
HIGH PERFORMANCE GRADED INDEX OPTICAL POLYMER FIBERS Univ of Pennsylvania	Garito	R 36 03/08/94 \$300,000	A LEE 94-NL-278	\$100,000 15/11/94 \$300,000
METALLOPHthalocYANINE-BASED COORDINATION-POLYMER MAGNETIC MATERIALS Univ of Utah	Miller	N 36 04/08/94 \$438,668	LEE 94-NL-279	

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OPTICAL PROCESSES AND DEVICES USING HYDROGEN BONDED POLYDIACETYLENE Univ of Massachusetts at Lowell	Sandman Daniel	N 36 04/08/94 \$366,525	A LEE 94-NL-280	\$123,278 01/03/95 \$366,526
HELICAL LADDER OLIGOMERS AND TUBULES FROM INTRAMOLECULAR CYCLIZATI ON REACTIONS OF PHENYLETHYNYL CYCLYNES Univ of Akron	Youngs Willey	N 36 04/08/94 \$395,658	D LEE 94-NL-281	
CHROMOPHORES FOR ELECTROOPTICS AND OPTICAL SWITCHING California Institute of Technology	Harder Seth	N 36 05/08/94 \$405,011	A LEE 94-NL-282	\$141,398 01/03/95 \$405,011
SYNTHESIS OF NON-TOXIC BIODEGRADABLE AIRCRAFT DEICING COMPOUNDS AN D AIRCRAFT FUEL ICING INHIBITOR ADDITIVES George Mason University	Mushrush George	N 36 10/08/94 \$103,100	A MEDBERG 94-NL-283	\$103,100 01/04/95 \$324,638
VISUAL SPACE PERCEPTION IN REAL AND VIRTUAL ENVIRONMENTS Univ of California, Santa Barbara	Loomis Jack	N 36 10/08/94 \$399,297	D COLLINS 94-NL-284	
ADAPTIVE VISUAL-VESTIBULAR MECHANISMS FOR SPATIAL ORIENTATION Univ of Mississippi Medical Center	Angelaki Dora	N 36 10/08/94 \$361,362	A COLLINS 94-NL-285	\$118,099 01/02/95 \$361,362
USING LABELS TO ENHANCE SUBGOAL LEARNING: EFFECTS ON LEARNING AND TRANSFER Georgia Institute of Tech	Catrambone Richard	N 36 12/08/94 \$178,962	D HADDAD 94-NL-286	
CHEMICALLY DERIVED MATERIALS: STRUCTURE-PROPERTY-ENVIRONMENTAL REL ATIONS Univ of Florida	Hench Larry	R 36 16/08/94 \$968,048	A ERSTFELD 94-NL-287	\$309,185 01/06/95 \$968,048
NEW APPROACHES TO ALUMINUM PASSIVATION FOR CORROSION PREVENTION Univ of Pittsburgh	Yates, Jr. John	R 36 16/08/94 \$635,091	A DE LONG 94-NL-288	\$219,811 01/04/95 \$635,092

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STUDIES OF APPARENT MOTION: METHOD, MECHANISM AND MASKING Univ of Houston	Braitmeyer Bruno	N 36 18/08/94 \$181,051	COLLINS 94-NL-289	
THE KEY INVOLVEMENT OF POLY(ADP-RIBOSYLATION) IN DEFENSE AGAINST TOXIC AGENTS: MOLECULAR BIOLOGY STUDIES Georgetown University	Saulson Mark	R 36 18/08/94 \$501,874	A KOZUMBO 94-NL-290	\$371,780 01/04/95 \$526,303
EXPOSURE ASSESSMENT AS A FUNCTION OF BIOAVAILABILITY AND SOIL QUAL ITY Rutgers - The State University	Erstfeld Karen	N 36 18/08/94 \$420,931	O KOZUMBO 94-NL-291	
REMEDIATION OF TNT, RDX, AND PINK WATER Univ of Arizona	Ogden Kimberly	N 36 18/08/94 \$309,435	KOZUMBO 94-NL-292	
A STUDY OF MICROBIAL DETERIORATION OF FIBER REINFORCED COMPOSITES AND POLYMERIC PRIMER COATINGS Harvard College	Mitchell Ralph	N 36 18/08/94 \$390,000	A HEDBERG 94-NL-293	\$130,000 01/03/95 \$390,000
EXTRA HIGH ENERGY OXIDIZERS AND FUELS SRI International	Schmitt Robert	N 36 18/08/94 \$613,033	BERMAN 94-NL-294	
A FIDELITY METRIC FOR IMAGE SEQUENCES Neurometrics Institute	Carney Thom	N 48 19/08/94 \$291,794	A TANGENY 94-NL-295	\$71,497 15/02/95 \$291,794
THE INFLUENCE OF VESTIBULAR LOADING ON THE HUMAN CYCLOFUSIONAL RES PONSE Free University of Berlin	Clarke Andrew	N 24 24/08/94 \$214,100	COLLINS 94-NL-296	
COMPARATIVE STUDIES OF SPATIAL ORIENTATION: BIOCHEMICAL, ELECTROPH YSIOLOGICAL, AND BEHAVIORAL INVESTIGATIONS College of Staten Island/CUNY	Wieraszko Andrzej	N 36 30/08/94 \$498,543	COLLINS 94-NL-297	

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AUDITORY CUES TO COMBAT SPATIAL DISORIENTATION

Brandeis University

Lackner

James

N 36  
30/08/94  
\$357,540

A  
COLLINS  
94-NL-298

\$123,946  
01/02/95  
\$589,686

VIEW-BASED STRATEGIES FOR FORM & MOTION FUSION IN OBJECT RECOGNITION AND ROBOT EXPLORATION: A NEURAL SYSTEMS APPROACH

Maxman

Allen

N 12  
31/08/94  
\$174,595

COLLINS  
94-NL-299

SYNAPTIC PLASTICITY AND MEMORY FORMATION

Univ of California, Irvine

Lynch

Gary

R 36  
06/09/94  
\$727,495

A  
HADDAD  
94-NL-300

\$233,000  
01/06/95  
\$633,000

MOLECULAR ENGINEERING OF MACROCYCLIC COMPOUNDS LEADING TO PRONOUNCED THIRD-ORDER NONLINEAR OPTICAL PROPERTIES

Mandal

Braja

N 36  
07/09/94  
\$360,064

0  
LEE  
94-NL-301

THERMOOXIDATIVE STABILITY OF POLYIMIDE COMPOSITES FOR AEROSPACE APPLICATIONS

Polycomp Technologies

Leung

Chuck

N 24  
19/09/94  
\$342,596

A  
LEE  
94-NL-302

\$124,992  
01/03/95  
\$342,928



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WAVE-PARTICLE INTERACTIONS IN THE RADIATION BELTS Massachusetts Institute of Technology	Lee Min-Chang	N 36 01/06/94 \$339,000	D RADOSKI 94-NM-230	
THE SOURCE OF THE LOW LATITUDE BOUNDARY LAYER Univ of California, Los Angeles	Walker Raymond	N 36 01/06/94 \$196,631	A RADOSKI 94-NM-231	\$61,565 01/10/94 \$196,631
FEATURE EXTRACTION BY BEST-BASIS WAVELET METHODS Washington University	Wickerhauser M. Victor	R 12 01/06/94 \$93,870	A SJOGREN 94-NM-232	\$59,990 01/03/95 \$59,990
STATE OF THE ART IN GLOBAL OPTIMIZATION: COMPUTATIONAL METHODS AND APPLICATIONS Princeton University	Floudas Christodoulos	N 06 01/06/94 \$17,000	D GLASSMAN 94-NM-233	
A UNIFIED DOMAIN MAPPING APPROACH FOR EFFICIENT SOLUTION OF ORDERING AND NON-ORDERING PROBLEMS USING GENETIC ALGORITHMS Univ of Louisville	Kumar Anup	N 24 01/06/94 \$172,032	D GLASSMAN 94-NM-234	
RECURRENT NEURAL NETWORKS FOR INTEGER PROGRAMMING AND THEIR APPLICATIONS TO REAL-TIME AIR COMBAT OPERATIONS PLANNING Univ of North Dakota	Hang Jun	N 36 03/06/94 \$103,330	D GLASSMAN 94-NM-235	
TIME SENSITIVE CONTROL OF AIR COMBAT OPERATION George Mason University	Levis Alex	N 36 03/06/94 \$397,196	A GLASSMAN 94-NM-236	\$113,551 15/01/95 \$359,965
LARGE SCALE AND PARALLEL NONLINEAR OPTIMIZATION WITH APPLICATIONS TO X-RAY CRYSTALLOGRAPHY George Mason University	Nash Stephen	N 36 03/06/94 \$258,253	D GLASSMAN 94-NM-237	
COMBINATORIAL PROPERTIES AND OPTIMAL DESIGNS OF BROADCAST NETWORKS Univ of Vermont	Yang Yuanyuan	N 36 03/06/94 \$141,109	D GLASSMAN 94-NM-238	

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CURRENT SHEET EQUILIBRIA AND DISRUPTIONS Univ of Colorado	Burkhart Grant	N 36 06/06/94 \$222,612	0 RADOSKI 94-NM-239	
TEMPERATURE STRUCTURE AND MORPHOLOGY OF THE SOLAR CORONA Smithsonian Institution	Habbal Shadia	N 36 06/06/94 \$554,272	RADOSKI 94-NM-240	
A CONJUGATE STUDY OF ULF WAVES AT THE CUSP Univ of Alaska	Olson John	N 36 06/06/94 \$196,926	A RADOSKI 94-NM-241	\$64,709 01/10/94 \$196,926
RESEARCH IN STOCHASTIC PROCESSES AND THEIR APPLICATIONS Univ of North Carolina	Cambanis Stamatidis	N 36 06/06/94 \$386,547	A SJOGREN 94-NM-242	\$74,991 01/02/95 \$231,010
STATISTICAL INFERENCE FOR COHERENT SYSTEMS FROM PARTIAL INFORMATION AND MARKOV CHAIN MONTE CARLO METHODS Ohio State Univ Research Foundation	Goss Mani	N 12 06/06/94 \$59,477	A SJOGREN 94-NM-243	\$40,893 01/12/94 \$59,477
INVESTIGATIONS ON THE RESPONSE OF OH AIRGLOW TO GRAVITY WAVES IN THE PRESENCE OF WINDS AND CRITICAL LAYERS... Univ of Cincinnati	Tuan Tai-Fu	N 36 06/06/94 \$360,297	M KROLL 94-NM-244	
A COMPARATIVE STUDY OF HEAD/NECK DYNAMICS DUE TO IMPACT ACCELERATION Univ of Puerto Rico	Patra Amit	N 36 06/06/94 \$167,270	D JACOBS 94-NM-245	
NONLINEAR MODELING ANALYSIS AND CONTROL OF TURBOMACHINERY STALL FLUTTER United Technologies Research Center	Kousen Kenneth	N 38 06/06/94 \$758,948	A JACOBS 94-NM-246	\$379,474 01/04/95 \$758,948
MATHEMATICAL PREDICTION OF THE PHYSICAL PROPERTIES OF MATERIALS AND MEDIA Georgia Institute of Tech	Bruno Oscar	N 36 07/06/94 \$205,162	A NACHMAN 94-NM-247	\$14,600 01/02/95 \$165,801

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MULTILEVEL FAST ALGORITHMS FOR SCATTERING FROM COATED METALLIC BODIES Univ of Illinois	Chew	N 36 07/06/94 \$453,288	NACHMAN 94-NM-248	
COMMUNICATION NETWORK RESEARCH California Institute of Technology	McEliece	R 36 07/06/94 \$325,664	D GLASSMAN 94-NM-249	
SHOP FLOOR SCHEDULING FOR PROGRAMMED DEPOT MAINTENANCE CONSIDERING STOCHASTIC REPAIR NEEDS Iowa State University	Gammill	N 36 07/06/94 \$173,455	A GLASSMAN 94-NM-250	\$57,675 01/02/95 \$173,455
DEVELOPMENT OF AN ADVANCED IMPLICIT ALGORITHM FOR MHD COMPUTATIONS ON PARALLEL COMPUTERS Univ of Washington	Eberhardt	N 12 08/06/94 \$16,185	A JACOBS 94-NM-251	\$103,462 01/02/95 \$103,462
SURFACE FITTING VIA RADIAL AND RELATED BASIS FUNCTIONS WITH APPLICATIONS TO NEURAL NETWORKS Texas A and M Research Foundation	Narcowich	N 36 08/06/94 \$178,933	A NACHMAN 94-NM-252	\$43,378 01/03/95 \$134,889
A PROGRAM DERIVATION AND VISUALIZATION METHODOLOGY APPLIED TO THE DESIGN OF SAFETY-CRITICAL FLIGHT CONTROL SOFTWARE Washington University	Roman	N 36 08/06/94 \$566,856	LUGINBUHL 94-NM-253	
AUTOMATED SOFTWARE GENERATORS-DESIGN AUTOMATION FOR A SOFTWARE INDUSTRY Oregon Graduate Institute	Kieburtz	N 36 08/06/94 \$4,000,000	LUGINBUHL 94-NM-254	
INTEGRATION OF FORMAL FOUNDATIONS INTO DESIGN AND VERIFICATION OF CRITICAL REAL-TIME DISTRIBUTED SYSTEMS Univ of North Texas	Fisher	N 36 09/06/94 \$1,290,901	LUGINBUHL 94-NM-255	
SOFTWARE TRUSTABILITY RESEARCH Univ of California, San Diego	Howden	N 36 09/06/94 \$573,292	LUGINBUHL 94-NM-256	

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RAPID THERMAL PROCESSING OF SEMICONDUCTORS AT HIGH VAPOR DENSITIES North Carolina State University	Banks H.	N 24 09/06/94 \$712,110	A JACOBS 94-NM-257	\$72,000 01/09/94 \$712,000
A FRAMEWORK FOR SOFTWARE DEPENDABILITY EVALUATION Univ of Illinois	Iyer Ravishankar	N 36 09/06/94 \$996,990	LUGINBUHL 94-NM-258	
ICON CODE ENVIRONMENT Advanced Technologies Inc	Gardinier Mark	N 36 09/06/94 \$759,240	LUGINBUHL 94-NM-259	
CRITICAL REACTIVE SYSTEMS: A FORMAL METHOD AND ITS INDUSTRIALIZATION Odyssey Research Associates	Guaspari David	N 36 09/06/94 \$1,010,706	LUGINBUHL 94-NM-260	
FORMALISMS FOR STRUCTURED TRANSLATION OF SPECIFICATIONS TO EFFICIENT EXECUTABLE CODE Honeywell Inc	Vestal Stephen	N 36 09/06/94 \$500,138	LUGINBUHL 94-NM-261	
TRACTABLE SOFTWARE ANALYSIS Carnegie-Mellon University	Clarke Edmund	N 36 09/06/94 \$2,639,062	LUGINBUHL 94-NM-262	
PROCESS & TOOLSET FOR SOFTWARE SAFETY ANALYSIS FOR CRITICAL SYSTEMS Univ of Minnesota	Tsal W.	N 36 09/06/94 \$303,049	LUGINBUHL 94-NM-263	
FORMAL METHODS FOR SPECIFICATION, VERIFICATION, AND VALIDATION OF SAFETY-CRITICAL CONTROL SYSTEMS Univ of Michigan	Jahanian Farnam	N 36 09/06/94 \$1,033,209	LUGINBUHL 94-NM-264	
FORMAL COMPOSITION OF SOFTWARE FROM COMPONENT LIBRARIES SRI International	Waldinger Richard	N 36 09/06/94 \$899,221	LUGINBUHL 94-NM-265	

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DEVELOPMENT OF RELIABLE DISTRIBUTED PROTOCOLS				
Rice University	Vardi	N 36 09/06/94 \$1,001,626	LUGINBUHL 94-NM-266	
A FORMAL METHODS APPROACH TO RELIABLE SOFTWARE				
Software Productivity Consortium	Faulk	N 36 09/06/94 \$1,411,375	LUGINBUHL 94-NM-267	
FOUNDATIONS OF OBJECT-ORIENTED SOFTWARE				
Stanford University	Pratt	N 36 09/06/94 \$554,549	LUGINBUHL 94-NM-268	
ROBUST FAULT TOLERANCE FOR NUMERICAL COMPUTATIONS				
Univ of Minnesota	Boley	N 24 10/06/94 \$598,848	LUGINBUHL 94-NM-269	
TOWARDS A FORMAL UNDERSTANDING OF RELIABLE SOFTWARE				
Univ of Texas, El Paso	Cooke	N 36 10/06/94 \$404,775	LUGINBUHL 94-NM-270	
A FAULT-TOLERANT SOFTWARE APPROACH FOR MULTIPROCESSOR SYSTEMS				
Univ of California, Irvine	Bagherzadeh	N 36 10/06/94 \$306,063	LUGINBUHL 94-NM-271	
A FORMAL CASE APPROACH TO GENERATING HIGH-RELIABILITY FAULT TOLERANT SOFTWARE				
Charles River Analytics Inc	Riley	N 36 10/06/94 \$750,000	LUGINBUHL 94-NM-272	
READABLE SPECIFICATIONS OF INFORMATION-CONTROL SYSTEMS				
Univ of Pittsburgh	Bertziss	N 36 10/06/94 \$325,643	LUGINBUHL 94-NM-273	
TOWARDS A FORMAL METHODOLOGY FOR THE DEVELOPMENT & EVOLUTION OF RELIABLE SOFTWARE FOR CRITICAL SYSTEMS: AN INTEGRATED APPROACH				
Univ of Washington	Leveson	N 36 10/06/94 \$1,751,704	LUGINBUHL 94-NM-274	

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DESIGNING TEMPORAL CONTROLS FOR CRITICAL SYSTEMS Univ of Maryland	Agrawala Ashok	N 36 10/06/94 \$728,703	LUGINBUHL 94-NM-275	
COOPERATING DIVERSE EXPERTS SYSTEMS Texas Engineering Experiment Station	Pradhan D.	N 36 10/06/94 \$1,172,696	LUGINBUHL 94-NM-276	
A FORMAL ARCHITECTURAL REPRESENTATION FOR SYSTEMS SYNTHESIS Univ of Cincinnati	Alexander W. Perry	N 36 10/06/94 \$564,287	LUGINBUHL 94-NM-277	
PROGRAM CHECKING AND RECOVERY IN PARALLEL AND DISTRIBUTED SYSTEMS Univ of Illinois	Loui Michael	N 36 10/06/94 \$850,616	LUGINBUHL 94-NM-278	
FUNCTIONAL SPECIFICATION, & REFINEMENT OF RELIABLE SOFTWARE FOR CRITICAL SYSTEMS Yale University	Hudak Paul	N 36 10/06/94 \$1,108,544	LUGINBUHL 94-NM-279	
FORMAL SPECIFICATION & SIMULATION OF REFERENCE ARCHITECTURES FOR DISTRIBUTED & SAFETY CRITICAL AVIONICS SYSTEMS Stanford University	Luckham David	N 36 10/06/94 \$1,589,697	LUGINBUHL 94-NM-280	
INVESTIGATING MATHEMATICAL METHODS FOR SPECIFYING & VERIFYING HIGH-INTEGRITY SOFTWARE SYSTEMS WITH NARROW DOMAINS Mississippi State University	Gowan Lon	N 36 10/06/94 \$728,731	LUGINBUHL 94-NM-281	
SYNTHESIS APPROACH TO CONSTRUCTING RELIABLE REAL-TIME, DISTRIBUTED SYSTEMS Kestrel Institute	Jullig Richard	N 36 10/06/94 \$1,199,987	LUGINBUHL 94-NM-282	
FORMAL METHODS FOR RELIABLE DISTRIBUTED COMPUTING Univ of Illinois	Agha Gul	N 36 10/06/94 \$884,209	LUGINBUHL 94-NM-283	

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FORMAL OBJECT ORIENTED METHODOLOGIES FOR DEVELOPING RELIABLE SOFTWARE North Carolina A&T State University	Williams	N 36 10/06/94 \$984,043	LUGINBUHL 94-NM-284	
ADVANCED FORMAL METHODS FOR RELIABLE CRITICAL SYSTEMS SOFTWARE Univ of Pennsylvania	Lee	N 36 10/06/94 \$1,568,665	A LUGINBUHL 94-NM-285	\$1,220,000 01/01/95 \$1,220,000
A FORMAL METHODS WORKBENCH FOR CRITICAL SYSTEMS SRI International	Rushby	N 36 10/06/94 \$999,933	A LUGINBUHL 94-NM-286	\$780,000 01/01/95 \$780,000
AUTOMATED SUPPORT FOR REASONING ABOUT RELIABLE CONCURRENT SYSTEMS Cornell University	Constable	N 36 10/06/94 \$844,362	LUGINBUHL 94-NM-287	
DYNAMIC ASSESSMENT OF SOFTWARE RELIABILITY FOR CRITICAL SYSTEMS Purdue Research Foundation	Mathur	N 36 10/06/94 \$1,744,092	LUGINBUHL 94-NM-288	
CLEANROOM SOFTWARE ENGINEERING FOR RELIABLE SOFTWARE CRITICAL SYSTEMS IBM Thomas J. Watson Research Center	Hausler	N 36 10/06/94 \$2,363,200	LUGINBUHL 94-NM-289	
INTEGRATING FORMAL METHODS & THE TRANSACTION MODEL FOR CRITICAL SYSTEMS RESEARCH George Mason University	Ammann	N 36 10/06/94 \$394,872	LUGINBUHL 94-NM-290	
DESIGNING RELIABLE CRITICAL SOFTWARE SYSTEMS Q U E S T	Munson	N 36 10/06/94 \$933,890	LUGINBUHL 94-NM-291	
FORMAL PROGRAM DEVELOPMENT York Software Engineering LTD	McDermid	N 36 13/06/94 \$1,083,113	LUGINBUHL 94-NM-292	

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BASIC RESEARCH IN CLEANROOM SOFTWARE ENGINEERING Univ of Tennessee	Poore	N 36 13/06/94 \$614,529	LUGINBUHL 94-NM-293	
AN EXTENSION OF FORMAL SCENARIO ANALYSIS FOR CRITICAL SYSTEMS Univ of Texas	Hsia	N 36 13/06/94 \$623,397	LUGINBUHL 94-NM-294	
SPECIFICATION AND ANALYSIS OF REAL-TIME SYSTEMS Univ of California, Santa Barbara	Moser	N 36 13/06/94 \$541,112	LUGINBUHL 94-NM-295	
DEVELOPING A METHODOLOGY FOR ASSESSING THE DEPENDABILITY OF INTEGRATED SOFTWARE-HARDWARE Univ of California, Los Angeles	Apostolakis	N 12 13/06/94 \$491,704	LUGINBUHL 94-NM-296	
DEVELOPMENT AND EVALUATION OF ADVANCED SOFTWARE ENGINEERING TECHNIQUES FOR SAFETY CRITICAL SYSTEMS Univ of Virginia	Knight	N 36 13/06/94 \$1,077,504	LUGINBUHL 94-NM-297	
CLEANROOM AUTOMATION TOOLS ENVIRONMENT (CRATE) RESEARCH PROGRAM Software Engineering Technology	Cobb	N 36 13/06/94 \$1,993,490	LUGINBUHL 94-NM-298	
FORMAL MULTIVIEW ARCHITECTURES OF CRITICAL SOFTWARE Uniview Systems	Gabrielian	N 48 13/06/94 \$732,195	LUGINBUHL 94-NM-299	
A FRAMEWORK FOR VALIDATING SYSTEMS USING REUSABLE AND COTS SOFTWARE COMPONENTS Lockheed Missiles & Space Co Inc	Graves	N 36 13/06/94 \$872,141	LUGINBUHL 94-NM-300	
A PASSIVE RADAR FOR ATMOSPHERIC REMOTE SENSING USING COMMERCIAL FM BROADCASTS Univ of Washington	Sahr	N 36 17/06/94 \$222,146	KROLL 94-NM-301	



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PLANETARY WAVES IN THE IONOSPHERE Univ of Colorado	Forbes Jeffrey	N 36 17/06/94 \$173,256	A KROLL 94-NM-302	\$57,999 01/01/95 \$173,256
DEVELOPMENT OF A SYSTEM FOR ACCURATE FORECASTING OF SOLAR ACTIVITY Yale University	Sofia Sabatino	N 36 17/06/94 \$264,520	D RADOSKI 94-NM-303	
NEW COORDINATES FOR SIGNAL ANALYSIS & PROCESSING Rice University	Baraniuk Richard	N 24 20/06/94 \$133,916	SJOGREN 94-NM-304	
A COMBINED SIMULATION MODEL FOR THE MAGNETOSPHERE: GLOBAL MHD MEETS THE RICE CONVECTION MODEL Rice University	Wolf Richard	N 36 23/06/94 \$303,365	RADOSKI 94-NM-305	
A NEW GENERATION OF GENETIC ALGORITHMS FOR SOLVING COMBINATORIAL OPTIMIZATION PROBLEMS Massachusetts Institute of Technology	Orlin James	N 36 23/06/94 \$275,593	D GLASSMAN 94-NM-306	
AN ADVANCED WORKSTATION LABORATORY FOR COMPUTATIONAL SCIENCE AND ENGINEERING Univ of Illinois - Urbana Champaign	danerjee Prithviraj	N 36 24/06/94 \$300,000	D JACOBS 94-NM-307	
COMPLEX DATA BASES: CODE DEVELOPMENT AND STABLE STORAGE Ohio State University	Wilkins John	N 36 24/06/94 \$240,000	D JACOBS 94-NM-308	
INFRASTRUCTURE FOR REMOTE HIGH PERFORMANCE COMPUTING Purdue Research Foundation	Antonio John	N 36 24/06/94 \$249,880	D JACOBS 94-NM-309	
COMPUTATIONAL INFRASTRUCTURE FOR RESEARCH IN ADVANCED MATERIALS AND STRUCTURES Florida State University	Chella Ravi	N 36 24/06/94 \$139,173	D JACOBS 94-NM-310	

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WORKSTATION FOR VIDEO ANALYSIS AND ANIMATION State University of New York - Rsch Fnd	Prasad	N 36 24/06/94 \$58,422	A JACOBS 94-NM-311	\$58,422 01/01/95 \$58,422
INFRASTRUCTURE FOR HIGH PERFORMANCE COMPUTING IN MATERIALS PHYSICS AND CHEMISTRY Pennsylvania State University	Annett	N 36 24/06/94 \$133,373	D JACOBS 94-NM-312	
ADVANCED PRE AND POST PROCESSING EQUIPMENT FOR TIME DEPENDENT NUMERICAL SIMULATION OF COMPLEX FLOWS Univ of Arizona	Fasel	N 36 24/06/94 \$300,191	A JACOBS 94-NM-313	\$300,191 15/01/95 \$300,191
COMPUTERS FOR ATOMIC LEVEL SIMULATION OF FRACTURE TRANSITIONS Massachusetts Institute of Technology	Argon	N 36 24/06/94 \$61,501	D JACOBS 94-NM-314	
CEM-CFO COMPLEX MATERIALS AND GEOMETRIES Pennsylvania State University	Luebbers	N 36 24/06/94 \$106,989	D JACOBS 94-NM-315	
IMPACT SIMULATION COMPUTER LABORATORY Florida A&M University	Wekezer	N 36 24/06/94 \$108,538	D JACOBS 94-NM-316	
EQUIPMENT TO FACILITATE HIGH PERFORMANCE COMPUTING Brown University	Anderson	N 36 24/06/94 \$162,025	D JACOBS 94-NM-317	
INTEGRATED CONTROL AND DESIGN OPTIMIZATION OF SMART STRUCTURES WITH EXPERIMENTAL VALIDATION Wright State University	Grandhi	N 36 24/06/94 \$137,580	D JACOBS 94-NM-318	
HIGH PERFORMANCE GRAPHICAL WORKSTATION ENVIRONMENT Univ of Colorado	McCormick	N 36 27/06/94 \$196,770	D JACOBS 94-NM-319	

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INFRASTRUCTURE TO ENABLE INTERACTIVE VISUALIZATION IN HIGH PERFORMANCE COMPUTING Purdue Research Foundation	Rice	N 36 27/06/94 \$355,365	D JACOBS 94-NM-320	
C94 DURIP) RESEARCH INSTRUMENTATION FOR PRE-AND POST-PROCESSING FOR HIGH PERFORMANCE COMPUTING AND DIAGNOSIS Univ of Cincinnati	Ghia	N 36 27/06/94 \$210,145	D JACOBS 94-NM-321	
(DURIP94) THEORETICAL STUDIES OF THE WEAK INTERACTIONS OF LIGHT, ATOMS WITH SMALL MOLECULES Univ of Maryland	Alexander	N 12 27/06/94 \$104,758	A JACOBS 94-NM-322	\$104,758 01/01/95 \$104,758
C94 DURIP) GRAPHICS WORKSTATION FOR STUDIES OF FLOWS AND FLOW CONTROL Ohio State Univ Research Foundation	Herbert	N 36 27/06/94 \$157,395	A JACOBS 94-NM-323	\$154,794 01/01/95 \$157,395
(DURIP94) PURCHASE OF A WORKSTATION FOR CHEMICAL COMPUTATIONAL MODELING Northern Illinois University	Spangler	N 12 27/06/94 \$67,744	D JACOBS 94-NM-324	
C94 DURIP) COMPUTATION AND VISUALIZATION IN NONLINEAR MECHANICS Univ of Maryland	Maddocks	N 36 27/06/94 \$100,000	A JACOBS 94-NM-325	\$100,000 30/09/94 \$100,000
(DURIP94) COMPUTER EQUIPMENT FOR LARGE-SCALE SCIENTIFIC COMPUTING Texas A and M Research Foundation	Daripa	N 12 27/06/94 \$69,867	D JACOBS 94-NM-326	
(DURIP94) INTERACTIVE GRAPHICS FOR ELECTRONIC STRUCTURE THEORY Iowa State University	Gordon	N 12 27/06/94 \$100,020	A JACOBS 94-NM-327	\$92,294 01/01/95 \$92,294
C94 DURIP) PURCHASE OF A WORKSTATION SYSTEM Univ of Florida	Hsu	N 36 27/06/94 \$61,819	D JACOBS 94-NM-328	

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(94 DURIP) HIGH PERFORMANCE COMPUTING ACCESS FOR MISER LABORATORY Univ of North Dakota	Schalm William	N 36 27/06/94 \$58,114	D JACOBS 94-NM-329	
(DURIP94) A PARALLEL PROCESSING SYSTEM FOR RESEARCH ON COMPUTATIONAL INTELLIGENCE & ACCESS TO HIGH COMPUTING New Jersey Institute of Technology	Ansari Nirwan	N 12 27/06/94 \$69,833	D JACOBS 94-NM-330	
(DURIP94) EQUIPMENT FOR VISUALIZATION OF LARGE-SCALE FLUID DYNAMICS Brown University	Fischer Paul	N 12 27/06/94 \$314,800	A JACOBS 94-NM-331	\$314,800 01/01/95 \$314,800
(94 DURIP) INFRASTRUCTURE TO ENABLE HIGH PERFORMANCE COMPUTING FOR PARTICLE SIMULATION Univ of Washington	Lake George	N 36 27/06/94 \$181,397	D JACOBS 94-NM-332	
(DURIP94) INFRASTRUCTURE FOR EFFECTIVE HIGH PERFORMANCE COMPUTING Cornell University	Kalos Malvin	N 12 27/06/94 \$409,768	D JACOBS 94-NM-333	
(DURIP94) INFRASTRUCTURE FOR HIGH PERFORMANCE COMPUTING IN MOLECULAR STRUCTURE DETERMINATION Princeton University	Floudas Christodoulos	N 12 27/06/94 \$172,959	D JACOBS 94-NM-334	
(94 DURIP) COMPUTATIONAL NONLINEAR OPTICS Univ of Arizona	Moloney Jerome	N 36 27/06/94 \$250,000	A JACOBS 94-NM-335	\$250,000 30/01/95 \$250,000
(DURIP94) HIGH PERFORMANCE COMPUTING & VISUALIZATION INSTRUMENTATION FOR ELECTROMAGNETICS RESEARCH & TRAINING Univ of Mississippi	Smith Charles	N 12 27/06/94 \$76,829	D JACOBS 94-NM-336	
(94 DURIP) COMPUTING EQUIPMENT FOR THE LEVICH INSTITUTE OF CCNY City University of New York	Aubry Nadine	N 36 27/06/94 \$532,007	D JACOBS 94-NM-337	

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(COURIP94) ENHANCING PROCESSING OF ENGINEERING & SCIENTIFIC COMPUTATIONS AT CLARK ATLANTA UNIVERSITY Clark Atlanta University	Singh Jatinder	N 12 27/06/94 \$79,903	D JACOBS 94-NM-338	\$199,700 01/01/95 \$199,700
(COURIP94) HIGH PERFORMANCE OBJECT-ORIENTED COMPUTATIONAL SCIENCE & ENGINEERING Morgan State University	Teate Annthony	N 12 27/06/94 \$253,000	D JACOBS 94-NM-339	\$199,700 01/01/95 \$199,700
(COURIP94) A COMPUTATIONAL FLUID DYNAMICS LABORATORY FOR ENGINEERING ANALYSIS AND DESIGN Princeton University	Jameson Antony	N 12 27/06/94 \$199,700	A JACOBS 94-NM-340	\$272,397 01/01/95 \$272,397
(94 DURIP) LARGE-SCALE SCIENTIFIC DATA ANALYSIS AND INFRASTRUCTURE California Institute of Technology	Taylor Stephen	N 36 27/06/94 \$326,783	A JACOBS 94-NM-341	\$68,449 01/01/95 \$69,079
(COURIP 94) AEROSPACE POST-PROCESSING AND VISUALIZATION LAB Purdue Research Foundation	Heister Stephen	N 36 27/06/94 \$69,079	A JACOBS 94-NM-342	\$132,190 30/09/94 \$132,190
(COURIP94) COMPUTER GRAPHICS FOR THE VISUALIZATION OF COMPLEX PHENOMENA IN CONDENSED MATTER PHYSICS & ASTROPHYSICS Univ of Florida	Stanton Christopher	N 12 27/06/94 \$150,000	D JACOBS 94-NM-343	
(COURIP 94) HIGH PERFORMANCE GRAPHICS HARDWARE FOR ADVANCED COMPUTATIONAL ELECTROMAGNETICS FIELD VISUALIZATION Northeastern University	Rappaport Carey	N 12 27/06/94 \$116,477	D JACOBS 94-NM-344	
(COURIP94) HIGH-SPEED NETWORKED WORKSTATION ENVIRONMENT FOR PARALLEL PROCESSING RESEARCH Purdue University	Chen Wai-Fah	N 12 27/06/94 \$108,618	D JACOBS 94-NM-345	
(COURIP94) GRAPHIC PRE-AND POST-PROCESSING FOR SCIENTIFIC COMPUTATIONS Virginia Polytechnic Inst & State Univ	Burns John	N 12 27/06/94 \$132,190	A JACOBS 94-NM-346	

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TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
LARGE-SCALE OPTIMIZATION Naval Post Graduate School	Bradley Gordon	N 12 30/06/94 \$100,000	A GLASSMAN 94-NM-347	\$100,000 01/01/95 \$100,000
PARTIAL DIFFERENTIAL EQUATIONS FROM THE MATERIALS SCIENCES: ANALYSIS AND COMPUTATION North Carolina State University	Reitlich Fernando	N 36 30/06/94 \$82,214	A NACHMAN 94-NM-348	\$12,689 01/02/95 \$40,001
STOCHASTICS OF RAINFALL & RADAR REFLECTIVITY Princeton University	Cinlar Erhan	N 12 30/06/94 \$71,384	NACHMAN 94-NM-349	
DOPPLER RADAR WIND ANALYSIS FOR NUMERICAL WEATHER PREDICTION Univ of Oklahoma	Xu Qin	N 36 30/06/94 \$392,070	A KROLL 94-NM-350	\$56,000 01/04/95 \$180,100
GRAVITY WAVES IN THE ATMOSPHERE: INSTABILITY MECHANISMS AND TRANSPORT PARAMETERIZATION Northwest Research Associates, Inc.	Dunkerton Timothy	N 36 30/06/94 \$246,658	KROLL 94-NM-351	
WAVELETS, SIGNAL PROCESSING & MATRIX COMPUTATION Air Force Institute of Technology	Suter Bruce	N 03 01/07/94 \$1,592	A SJOGREN 94-NM-352	\$1,592 25/06/94 \$1,592
CORE SUPPORT FOR THE ACTIVITIES OF THE COMPUTER SCIENCE AND TELECOMMUNICATION BOARD National Academy of Sciences	Blumenthal Marjory	N 36 01/07/94 \$75,000	A LUGINBUHL 94-NM-353	\$25,000 01/01/95 \$75,000
STATIC AND DYNAMIC BALANCE OF ROTOR STACKS Georgia Tech Research Corporation	Bartholdi, III John	N 36 01/07/94 \$239,681	A GLASSMAN 94-NM-354	\$74,553 01/01/95 \$239,681
OPPORTUNISTIC EFFICIENT AUTOMATIC REASONING IN A TIME-STRESSED ENVIRONMENT REQUIRING RAPID RISK IDENTIFICATION Univ of Cincinnati	Hazlack Lawrence	N 12 01/07/94 \$71,377	D WAKSMAN 94-NM-355	

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MAKING THE MOST OF INVARIANCE FOR VISUAL RECOGNITION Teleos Research	Burns J. Brian	N 36 01/07/94 \$179,766	WAKSMAN 94-NM-356	
RESEARCH IN ADVANCED METHODS FOR LARGE SCALE ELECTROMAGNETIC Rockwell International, Science Center	Bleszynski M.	N 36 01/07/94 \$599,934	NACHMAN 94-NM-357	
UNGUIDED DATABASE MINING FOUNDED ON DISSONANCE REDUCTION Univ of Cincinnati	Hazlack Lawrence	N 12 01/07/94 \$43,043	D LUGINBUHL 94-NM-358	
INTERNATIONAL CONFERENCE ON APPROXIMATION THEORY AND RELATED INTERDISCIPLINARY TOPICS Texas A and M Research Foundation	Chui Charles	N 12 01/07/94 \$10,000	D SJOGREN 94-NM-359	
HOW TO MODEL SOFTWARE FAILURE DATA Northern Illinois University	Ebrahimi Nader	N 36 01/07/94 \$101,268	D SJOGREN 94-NM-360	\$62,805 01/03/95 \$62,805
COMPUTATION AND THEORY IN NONLINEAR OPTIMIZATION Univ of Wisconsin	Robinson Stephen	R 36 01/07/94 \$244,050	A GLASSMAN 94-NM-361	
WAVE AND HEAT PROCESSES IN THE FRACTAL BOUNDARY LAYER Univ of North Carolina	Vainberg B.	N 36 01/07/94 \$162,737	D NACHMAN 94-NM-362	
HIERARCHICAL HP MODELING AND LOCKING RESOLUTION IN LAMINATED PLATES AND SHELLS Univ of Maryland, Baltimore County	Surf Manil	N 36 06/07/94 \$170,109	A JACOBS 94-NM-363	\$48,990 01/07/95 \$154,450
ARTIFICIAL INTELLIGENCE AND OPERATIONS RESEARCH Univ of Oregon	Ginsberg Mathew	N 12 06/07/94 \$33,350	A WAKSMAN 94-NM-364	\$33,350 01/10/94 \$33,350

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 TITLE (CONT.)  
 INSTITUTION

ADDING ABDUCTION TO ANNOTATED LOGIC PROGRAMMING

Wright State University

Thirunarayan

Krishnaprasad

DESIGN, OPTIMIZATION, AND APPLICATIONS OF DISCRETE EVENT DYNAMIC  
 SYSTEMS  
 Harvard University

Ho

Yu-Chi

NUMERICAL MODELING AND ANALYSIS OF TRANSIENT ELECTROMAGNETIC  
 WAVE INTERACTION WITH DISPERSIVE TARGETS  
 Southern Methodist University

Petropoulos

Peter

OPTIMIZATION AND ARTIFICIAL INTELLIGENCE

Rutgers, The State University

Boros

Endre

STATISTICAL THEORY AND APPLICATION OF CHAOTIC SIGNALS

Univ of Rhode Island

Kay

Steven

MAGNETOSPHERIC MORPHOLOGY & DYNAMICS: SPECIFICATION OF THE  
 NEAR-EARTH OPERATIONAL ENVIRONMENT  
 Johns Hopkins University

Meng

Ching-I

COURIP94) PARALLEL COMPUTATIONS OF DEFLAGRATION TO DETONATION  
 TRANSITION/ELECTRON MICROSTRUCTURES & WEAKLY TURBULENT FLUIDS  
 Univ of California, Santa Barbara

Bjorn

MAJOR SOLAR PROTON EVENT RECORD FROM POLAR ICE CORES

Univ of Kansas, Center for Research

Dreschhoff

Gisela

NEW RESEARCH IN SKY SURVEILLANCE: INTERPRETATION OF LOW-LUMINOSITY  
 OBJECTS  
 Univ of Arizona

Gehrels

Tom

TYPE/MONTHS  
 RECEIVED  
 AMOUNT

N 12  
 06/07/94  
 \$45,054

N 36  
 06/07/94  
 \$353,000

N 36  
 06/07/94  
 \$70,092

N 36  
 06/07/94  
 \$267,340

N 36  
 07/07/94  
 \$202,412

N 36  
 11/07/94  
 \$682,000

N 36  
 13/07/94  
 \$333,673

N 36  
 13/07/94  
 \$162,000

N 36  
 14/07/94  
 \$823,424

STATUS  
 PROGRAM MANAGER  
 PROPOSAL #

WAKSMAN  
 94-NM-365

A  
 GLASSMAN  
 94-NM-366

A  
 NACHMAN  
 94-NM-367

A  
 GLASSMAN  
 94-NM-368

SJOGREN  
 94-NM-369

D  
 RADOSKI  
 94-NM-370

D  
 JACOBS  
 94-NM-371

A  
 RADOSKI  
 94-NM-372

A  
 RADOSKI  
 94-NM-373

INITIATE  
 START DATE  
 TOT AMT

\$114,695  
 01/01/95  
 \$353,000

\$21,115  
 01/12/94  
 \$70,092

\$40,000  
 01/03/95  
 \$40,000

\$54,690  
 01/10/94  
 \$162,000

\$267,332  
 01/11/94  
 \$823,424



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TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
THE SOLAR ACTIVITY CYCLE New Jersey Institute of Technology	Goode Philip	N 36 15/07/94 \$499,467	A RADOSKI 94-NM-374	\$167,496 15/11/94 \$499,467
ENVIRONMENTAL CONDITIONS RESPONSIBLE FOR SOLAR ACTIVITY Stanford University	Sturrock Peter	N 36 18/07/94 \$770,579	A RADOSKI 94-NM-375	\$263,755 01/01/95 \$770,579
VECTOR-VALUED MALVAR WAVELETS Air Force Institute of Technology	Suter Bruce	N 36 19/07/94 \$200,200	A SJOGREN 94-NM-376	\$17,050 01/11/94 \$43,000
SENSITIVITY ESTIMATION OF DISCRETE EVENT SIMULATIONS: A SOFTWARE ENGINEERING APPROACH Univ of Illinois	Sreenivas Ramavarapu	N 36 20/07/94 \$213,924	O GLASSMAN 94-NM-377	
ANALYZING DISCRETE EVENT SIMULATION MODELS OF COMPLEX MANUFACTURING: A COMPUTATIONAL COMPLEXITY APPROACH Virginia Polytechnic Inst & State Univ	Jacobson Sheldon	N 36 20/07/94 \$242,557	A GLASSMAN 94-NM-378	\$62,825 01/02/95 \$242,557
SEISMIC SOURCES & STRUCTURE IN IRAN FROM JOINT SEISMIC PROGRAM ARRAY DATA Columbia University	Kim Won-Young	N 24 20/07/94 \$253,239	A DICKINSON 94-NM-379	\$122,666 01/10/94 \$253,239
SEISMIC SOURCES & STRUCTURE IN IRAN FROM JOINT SEISMIC PROGRAM ARRAY DATA Univ of Kansas - Research Support	Abers Geoffrey	N 24 20/07/94 \$63,981	A DICKINSON 94-NM-380	\$30,665 01/10/94 \$63,981
SYNTHETIC SEISMOGRAMS IN HETEROGENEOUS ELASTIC MEDIA & THE STUDY OF FORMATION & PROPAGATION OF REGIONAL PHASES IN EURASIA Univ of California, Santa Cruz	Wu Ru-Shan	N 24 20/07/94 \$170,202	A DICKINSON 94-NM-381	\$80,381 01/10/94 \$170,202
MODELING & DESIGN OF HIGH PRESSURE CRYSTAL GROWTH PROCESSES State University of New York	Prasad Vishwanath	N 36 21/07/94 \$296,854	D JACOBS 94-NM-382	

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PREDICTION OF GLOBAL CLOUD COVER WITH AN EXPLICIT FORMULATION Florida State University	Krishnamurti I.	N 36 28/07/94 \$296,917	A KROLL 94-NM-383	\$170,000 01/04/95 \$257,000
ELECTROMAGNETIC WAVE SCATTERING UPON TRANSMISSION/REFLECTION FROM IRREGULAR STRATIFIED MEDIA-THEORY, EXPERIMENT, & APPLICATIONS Univ of Nebraska	Ezekiel Bahar	N 36 28/07/94 \$371,260	D NACHMAN 94-NM-384	
POLARIMETRIC INVESTIGATION OF ELECTROMAGNETIC SCATTERING FROM TWO DIMENSIONAL RANDOM ROUGH SURFACES THAT EXHIBIT ENHANCED... Univ of Nebraska	Ezekiel Bahar	N 36 28/07/94 \$371,260	D NACHMAN 94-NM-385	
HIGH PERFORMANCE COMPUTING INFRASTRUCTURE FOR PDE BASED APPLICATIONS Purdue University	Rice John	N 36 28/07/94 \$641,376	D GLASSMAN 94-NM-386	
MATHEMATICAL STUDIES OF WAVELET INVERSE RECONSTRUCTIONS FOR NONDESTRUCTIVE EVALUATION/NOVEL DIELECTRICS/THE DISPERSION FROM... Univ of Missouri	Defacio Brian	N 36 02/08/94 \$239,766	A SJOGREN 94-NM-387	\$79,575 01/11/94 \$239,766
NONLINEAR CONTROL SYSTEMS Washington University	Byrnes Christopher	N 36 03/08/94 \$308,834	A JACOBS 94-NM-388	\$98,743 01/03/95 \$308,834
NEW PRIORITIES IN A CHANGING U.S. ECONOMY Univ of Minnesota	Friedman Avner	N 36 04/08/94 \$2,000,000	A GLASSMAN 94-NM-389	\$2,000,000 01/10/94 \$2,000,000
NONPARAMETRIC DATA REGRESSION & SURFACE RECONSTRUCTION BY WAVELETS Old Dominion Univ Rsh Foundation Inc.	Li Wu	N 12 05/08/94 \$36,742	A SJOGREN 94-NM-390	\$34,294 01/11/94 \$36,742
STATISTICAL THEORY OF RELIABILITY Univ of Missouri	Basu Asit	N 24 05/08/94 \$118,665	A SJOGREN 94-NM-391	\$77,204 01/01/95 \$150,065

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TITLE TITLE (CONT.) INSTITUTION	INVESTIGATOR	TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
SCIENCE AND ENGINEERING RESEARCH PROGRAMS AT THE UNIVERSITY OF PENNSYLVANIA Univ of Pennsylvania	Cooperman	N 36 09/08/94 \$3,750,000	A LUGINBUHL 94-NM-392	\$3,750,000 30/09/94 \$3,750,000
STATISTICAL TECHNIQUES FOR MODELING, ESTIMATION, & OPTIMIZATION IN DISTRIBUTED PARAMETER SYSTEMS North Carolina State University	Fitzpatrick	N 36 12/08/94 \$205,466	A JACOBS 94-NM-393	\$60,000 01/03/95 \$187,835
MODELING & CONTROL IN DISTRIBUTED PARAMETER PHYSICAL SYSTEMS North Carolina State University	Banks	N 36 12/08/94 \$894,179	A JACOBS 94-NM-394	\$79,415 01/03/95 \$238,245
DYNAMIC TYPE MATING Univ of Michigan	Duenyas	N 24 12/08/94 \$189,081	D GLASSMAN 94-NM-395	
THEORY & NUMERICAL METHODS FOR PROBLEMS IN ESCAPE TIME CONTROL PROBLEMS, LARGE DEVIATIONS, & SHAPE RECONSTRUCTION Brown University	Dupuis	R 36 12/08/94 \$195,822	JACOBS 94-NM-396	
PULSE PROPAGATION IN RANDOM MEDIA Virginia Polytechnic Inst & State Univ	Kohler	N 36 15/08/94 \$120,014	A NACHMAN 94-NM-397	\$37,046 01/02/95 \$120,014
DETERMINING & CONTROLLING OXYGEN CONCENTRATION IN TISSUE SURROUNDING BLOOD VESSELS Utah State University	Powell	N 36 15/08/94 \$78,580	NACHMAN 94-NM-398	
ROBUST OPTIMIZATION: MODELS & SOLUTION STRATEGIES Princeton University	Mulvey	N 36 15/08/94 \$370,486	A GLASSMAN 94-NM-399	\$178,138 01/03/95 \$241,651
CRACK PROPAGATION IN LINEAR & NONLINEAR VISCOELASTIC MATERIAL National Science Foundation	Rostamian	N 12 16/08/94 \$29,000	A NACHMAN 94-NM-400	\$29,000 01/01/95 \$29,000

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FINE-SCALE STRUCTURE OF THE EURASIAN CRUST AND UPPER MANTLE FROM HIGH-FREQUENCY SEISMIC WAVES Massachusetts Institute of Technology	Jordan Thomas	R 36 16/08/94 \$218,480	A DICKINSON 94-NM-401	\$68,560 01/11/94 \$217,480
FLEXIBLE MEMORY SYSTEM AND FAULT-TOLERANCE EXTENSIONS TO THE M-MACHINE Massachusetts Institute of Technology	Dally William	N 16 01/09/94 \$106,526	A LUGINBUHL 94-NM-402	\$117,277 30/09/94 \$106,526
PROPOSAL FOR A WORKSHOP ON EMERGING OPERATIONS RESEARCH METHODS IN THE ANALYSIS OF AIR MOBILITY PROBLEMS Air Force Institute of Technology	Parnel Gregory	N 12 14/09/94 \$35,000	A GLASSMAN 94-NM-403	\$35,000 01/12/94 \$35,000
AN INVESTIGATION OF MESOSCALE MODEL APPLICATIONS TO CLIMATE St. Louis University	Graves Charlie	N 12 15/09/94 \$60,785	D KROLL 94-NM-404	
BAYESIAN ASPECTS OF MATERIAL FAILURE, SOFTWARE INTEGRITY AND SIMULATION TRACKING George Washington University	Nozler Singpurwalla	N 36 21/09/94 \$150,000	A SJOGREN 94-NM-405	\$50,000 01/01/95 \$150,000
THE DYNAMICS OF CORRELATIONS IN LATTICE GASES Boston University	Boghosian Bruce	N 36 22/09/94 \$704,630	A JACOBS 94-NM-406	\$77,965 01/04/95 \$160,444
A COMPARATIVE ANALYSIS OF ADAPTIVE TIME-FREQUENCY TILINGS New World Systems Inc	Hernandez Robert	N 12 22/09/94 \$177,627	D SJOGREN 94-NM-407	
MOVING AVERAGES OF RANDOM VECTORS WITH REGULARLY VARYING TAILS Univ of Nevada	Meerschaert Mark	N 36 22/09/94 \$77,618	D SJOGREN 94-NM-408	
INTERNATIONAL CONVERGENCE ON SPECTRAL & HIGH ORDER METHODS Univ of Houston	Scott Ridgeway	N 12 26/09/94 \$40,250	D JACOBS 94-NM-409	

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OPTIMAL DESIGN OF DIFFRACTIVE OPTICAL STRUCTURE Texas A and M Research Foundation	Dobson	N 36 26/09/94 \$55,763	A NACHMAN 94-NM-410	\$44,500 15/05/95 \$44,500
LARGE-SCALE ELECTROMAGNETIC MODELING BY USING MASSIVELY PARALLEL SUPERCOMPUTER Utah State University	Pan	N 12 26/09/94 \$95,467	NACHMAN 94-NM-411	
CONTROL SYSTEM ANALYSIS AND DESIGN VIA MATRIX INEQUALITIES AND INTERIOR-POINT METHODS Stanford University	Boyd	N 36 26/09/94 \$315,250	A JACOBS 94-NM-412	\$100,000 01/04/95 \$315,250
OPTIMIZING DISCRIMINATION NETWORKS FOR ACTIVE DATABASE SYSTEMS Univ of Florida	Hanson	N 36 28/09/94 \$81,138	A WAKSMAN 94-NM-413	\$27,984 01/04/95 \$81,138
A PROGRAM FOR THE DEVELOPMENT OF EFFICIENT COMPUTATIONAL METHODS FOR SOLVING REALISTIC OPTIMIZATION PROBLEMS IN AERODYNAMIC TESTING Arnold Engineering Development Center	Keeling	N 36 28/09/94 \$150,000	A JACOBS 94-NM-414	\$50,000 01/10/94 \$150,000
APPLICATION OF APPROXIMATE INERTIAL MANIFOLDS AND MULTIREOLUTION TECHNIQUES TO PARALLEL COMPUTATIONS OF SENSITIVITIES & DESIGN ... Beem Engineering and Applied Research	Berkooz	N 36 28/09/94 \$321,662	A JACOBS 94-NM-415	\$107,050 01/03/95 \$536,270
MATERIAL FAILURE MECHANISMS IN NONLINEAR SOLIDS AND STRUCTURES Univ of Virginia	Horgan	N 24 28/09/94 \$123,729	A NACHMAN 94-NM-416	\$39,989 01/04/95 \$123,729
COMPUTATIONAL TECHNIQUES FOR ROBUST AND FIXED STRUCTURE CONTROL DESIGN Florida A&M University	Collins	N 36 28/09/94 \$75,723	A JACOBS 94-NM-417	\$98,048 01/03/95 \$278,714
E-OBSERVABILITY Arizona State University	Nikitin	N 36 28/09/94 \$150,260	D JACOBS 94-NM-418	

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TITLE  
TITLE (CONT.)  
INSTITUTION

RESEARCH ON THE P AND H-P VERSIONS OF THE FINITE ELEMENTS METHOD

Washington University Szabo Barua

INVESTIGATOR

BAGL: AN EXECUTABLE SPECIFICATION LANGUAGE

Univ of Texas, El Paso

Cooke Daniel

HYBRID REASONING UNDER UNCERTAINTY: INTEGRATING PROBABILITY, LOGIC  
AND DEFAULT REPRESENTATIONS  
Univ of Oregon

Darwiche

Adnan

TYPE/MONTHS RECEIVED AMOUNT	STATUS PROGRAM MANAGER PROPOSAL #	INITIATE START DATE TOT AMT
N 36 28/09/94 \$149,942	A JACOBS 94-NM-419	\$149,942 01/02/95 \$470,880
N 36 28/09/94 \$333,956	LUGINBUHL 94-NM-420	
N 36 30/09/94 \$371,084	A WAKSMAN 94-NM-421	\$60,000 01/04/95 \$180,000